UNITED STATES

FORM APPROVED OMB No. 1004-0136 0.2000

| | OIND NO. 100 TO |
|----------------------------|--------------------|
| DEPARTMENT OF THE INTERIOR | Expires November 3 |
| BUREAU OF LAND MANGEMENT | |
| | |

APPLICATION OFOR PERMIT TO DRILL OR REENETER 2005 HUG 12 SF - 078319-A Lease Serial No. AM 10 \$ If Indian, Allottee or tribe Name If Unit or CA Agreement, Name and No DRILL 1a. Type of Work: REENTER 070 FARMINGTON F Lease Name and Well No. Type of Well: Oil Well Gas Well Gas Other Single Zone Multiple Zone Jacquez Gas Com G 1S API Well No. Name of Operator 30-045-33276 **BP AMERICA PRODUCTION COMPANY** 10. Field and Pool, or Exploratory 3b. Phone No. (include area code) P.O. BOX 3092 HOUSTON, TX 77079-2064 281-366-4081 **Basin Fruitland Coal** Loction of Well (Report location clearly and in accordance with any State requirements.*) 11. Sec., T., R., M., or Blk, and survey or Area SECTION 29 T31N & R09W At surface 1410' FSL & 1740' FEL **NWSE** At proposed prod. Zone Distance in miles and direction from nearest town or post office* 12. County or Parish 13. State 23.5 MILES N/E FROM AZTEC, NM **SAN JUAN NEW MEXICO** Distance from proposed* 17. Spacing Unit dedicated to this well 16. No. of Acres in lease Location to nearest 316.60 316.60 Property or lease line, ft. (Also to nearest drig. Ujnit line, if any) 870' Distance from proposed location* 20. BLM/BIA Bond No. on file 19. Proposed Depth to nearest well, drilling, completed, 3180' MD WY2924 applied for, on this lease, ft. Elevations (show whether DF, KDB., RT, GL, etc. 22. Approximate date work will start* Estimated duration 6266' GL 09/10/05 3 DAYS 24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form: Bond to cover the operations unless covered by an existing bond on file (see Item Well plat certified by a registered surveyor. 20 above). Operator certification. A Surface Use Plan (if the location is on National forest System Lands, the Such other site specific information and/or plans as may be required by the SUPO shall be filed with the appropriate Forest Service Office). suthorized officer. 25 Name (Printed/typed) Date Signature Cherry Hlava 08/09/2005 Title Regulatory Analyst Name (Printed/Typed) Date Appr Title Office

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct Operations thereon.

Conditions of approval, if any, are attached.

*(Instructions on reverse)

Title 18 U.S.C. Section 1001 and title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

District I PO Box 1980, Hobbs NM 88241-1980 PO Drawer KK, Artesia, NM 87211-0719 District III 1000 Rio Brazos Rd., Aztec, NM 87410 District IV

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION PO Box 2088 Santa Fe, NM 87504-2088

Form C-102 Revised February 21, 1994 Instructions on back Submit to Appropriate District Office State Lease - 4 Copies

Fee Lease - 3 Copies

| District IV PO Box 2088, San | ta Fc, NM 8 | 7504-2088 | | | | | | | | | AM | ENDED REPORT |
|---------------------------------|-------------------------------|--|--------------|--------------|---------------------------|----------|--|--|----------------|-----------------------------------|----------------|---|
| | API Number | WE | LL LO | CATION | | CREA | GE DEDIC | ATIC | ON PLA | | | |
| 30-045- | | 276 | 7 | 1629 | | Bas | on Fruit | Har | d C | oal | | |
| | Property Code 5 Property Name | | | | | | | | | ⁶ Well Number | | |
| 000 7/9 | No. | Jacquez Gas Com G * Operator Name * Elev | | | | | | | | | # 1S Elevation | |
| 00077 | 8 | E | BP AM | ERICA | CA PRODUCTION COMPANY 626 | | | | | | | 6266 |
| | | | | | 10 Surfac | e Lo | cation | | | | | |
| UL or Lot No. | Section | Township | Range | Lot Idn | Feet from th | - | North/South line | | from the | East/West lin | | County |
| J (Lot 6) | 29 | 31 N | 9 W | | 1410 | | SOUTH | L | 740 | EAS | 1 | SAN JUAN |
| ' UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | | ifferent Fron | | from the | East/West li | ine | County |
| | | | | | | | | | | | | |
| Dedicated Acre | s ¹³ Join | t or Infill 14 | Consolidatio | n Code 15 | Order No. | | | I | | . | | |
| 3/6.60 | VARY E | WILL DE | 4 COLONI | TO TO | IC COMPLI | ETION | I I I NOTE I A I I I | NITTE | POTC II | AVE DEE | VI CO | NCOLIDATED |
| NO ALLO | WABLE | | | | | | N APPROVED | | | | N CO | NSOLIDATED |
| 16 | | | | SPI'(R) | | | ************************************** | | 17 OPE | RATOR (| CER | TIFICATION |
| 10 | | | | }} | | | | (| l hereby ce | ertify that the | informa | tion contained herein i |
| | | | | } }} | | | | 8 | true and co | omplete to the t | best of | my knowledge and belie |
| ı | | | | }} | | | | \$ | } | | | |
| | | | | \$ }} | | | | (| | | 11 | / |
| | | | | | | | | { | Signature | herry | H | ava |
| | | | | } } | | | | Ì | Signature | erry | 4/a | va |
| | | | | } } | | | | { | Printed N | ame | | Anal - |
| Lot 1 Lot 2 | | | } } | Lot 3 | | Lot 4 | | Signature Cherry Hlava Printed Name, Regulatory Analy Title 8-9-05 | | | maigs/ | |
| | | | | \$ | | | | | 8-9-05 Date | | | |
| 5239(R) | | | | | | | | a (| | | | TIFICATION |
| 523 | | | | 49 | | | | 2400 | | | | ation shown on this plat tual surveys made by me |
| | | | | · }} | | | | . (| | my supervision, the best of my | | at the same is true and |
| Lot 8 | | | Lot 7 | 8 | Lot 6 | | Lot 5 | 3 | } | July | 12 2 | 2005 |
| 200 | | | | 8 | - 0.7/ | 2 | | Š | Date of S | urvey | | |
| | | | | | -0783/9 | | | 8 | Signature | GARY D. | VA | nal Surveyor |
| | | | | 8 € 7 | <u>'</u> ∂ - > ⊚- | | <u> 1740'</u> | | { / | CH M | EXIC | |
| | | | | { } | | | | \$ | \ /# | /2/hb | ソヘン・ | SURVEYOR |
| | | | | 8 | | | | 8 | WE GISTEN | (70 | 10 |) N. |
| Lot 9 | | Lot 10 | | ∦ ∟ | Lot 11 1710 | | Lot 12 | | \ \? | | / | |
| | | | | § | | | | | 701 | | IAHO | (IV) |
| | | | 521 | 8'R - | | ~ | ~~~~ | | Certificate | e Number | | |

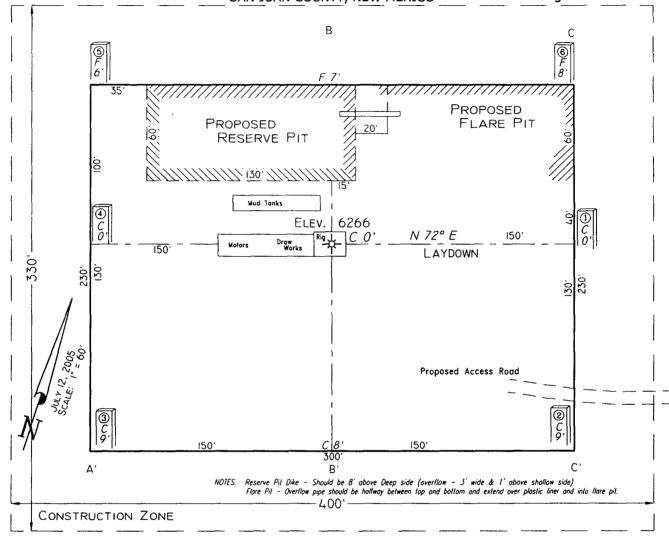
(R) - BLM Record

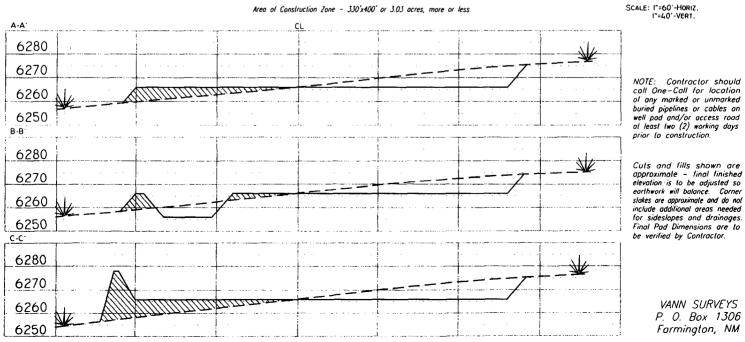
PAD LAYOUT PLAN & PROFILE BP AMERICA PRODUCTION COMPANY

A ROLL BURGES SERVICE AND THE

Jacquez Gas Com G #1S 1410' F/SL 1740' F/EL SEC. 29, T31N, R9W, N.M.P.M. SAN JUAN COUNTY, NEW MEXICO Lat: 36.8658° Long: 107.8006°

Lat: 36°51'57" Long: 107°48'02"





| | · · · · · · · · · · · · · · · · · · · | | DO 444 | #FDIC4 ===== | OTION | 1 00- | 45. | 111/ | | | |
|--|--|--|--|---|---|-------------------|---|------------------------------|--|-----------------|--|
| | · · · · · · · · · · · · · · · · · · · | | | IERICA PROD | | | | | | | |
| | | | DRIL | LLING AND COM | | PROG | RAM | | | | |
| | | | | | /2005 | | _ | <u></u> | | -10 | 1 |
| | 1 | Gas Com G Well Name & No. Jacquez GC G 1S Field: Basin Fruitland Coal | | | | | | | Dal | | |
| | San Juan, New Mexico Surface Location: SE 1/4, S 29, T31N, R9W : 1410' FSL, 1740' FEL Surface: Lat: 36.8658 Long:-107.8006 | | | | | | | | | | |
| Minerals: | Aztec 507 | | | | | | 110' E | N 1740' EE | <u> </u> | | |
| | | cot 6 5" cosing | | BH Location: SE 1/4 the Fruitland Coal into | | i, n9vv : 14 | FIU P | SL, 1740 FE | <u> </u> | | |
| OBJECTIVE: | טווו נס דט, | set 5.5 casing, | pen and rac | the Fruitiand Coal into | ervai. | | | | | | ./*- |
| | | ETHOD OF DR | II I INC | | | DDDOVIM | ATE | DEPTHS OF | GEOLOG | ICAL | MARKER |
| TVPE | OF TOOLS | | | DF DRILLING | Actual | | | | Estimated | | |
| | Rotary | , | | _ | /arker | GL. 021 | - | SUBSEA | | TVD | APPROX. MD |
| | rtotary | LOG PROGR | | | Dio Alamo | | - | 4,523' | <u>` </u> | | 1,754' |
| Туре | | | | | | Kirtland | | | | | 1,804' |
| | | | | | Fruitland Fm | | | 4,473' 3,557' | | | 2,720' |
| | | | | | ruitland Coa | ıi | *# | 3,399' | | | 2,878' |
| | | | | F | Pictured Cliffs | s | • | 3,197' | | | 3,080' |
| | | | | | | | | | | | |
| Cased H | lole | | | | | | \neg | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| REMARKS: | | | | | | | | | | | |
| Primary Log pre | | | | | | | | | | | |
| shaded. Carbon | | | | | · · · · · · · · · · · · · · · · · · · | | | | - | | |
| | | ustomer LAS file | to Dennis Hi | ilkewich in Houston - | | | | | | _ | |
| hilkewdn@bp.co | om. | | | | , | | | | | | |
| | | | | _ | | | | | | | |
| | | | | - | | | | | _ | | |
| | | | | - | TOTAL D | CDTU. | - | 3,097' | | | 3,180' |
| | | | | - | | | inton | | | * Poor | |
| SPECIAL TEST | re- | | | | | | ompletion interval * Possible Pay CUTTING SAMPLES DRILLING TIME | | | | |
| TYPE | - | | | | | | | | | | |
| 1 1 F L | EDEUL | ENCY | l r | SEPTH I | FREOI | HENC | Y I DEPTH | | | | |
| None | | | | | FREQU | | | EPTH | FREQU | | |
| None REMARKS: | | | | | FREQU | | noi | | | JENC' ograph | |
| | | | | | | | | | | | |
| REMARKS: | M: | | | | | | | | | | |
| REMARKS: MUD PROGRA | | d #/gz | 1 | Vis. sec/at | | | | ne to TD | Geolo | ograph | |
| REMARKS: | M: TypeMu Spud | | | Vis, sec/qt | non | | | ne to TD | | ograph | |
| REMARKS: MUD PROGRA Interval | TypeMu | 8.8 - 9 | 0.0 Suf | | non | е | noi | othe | Geolo | ograph ation | 0 - TD |
| REMARKS: MUD PROGRA Interval 200' | TypeMu Spud | 8.8 - 9 | 0.0 Suf | | /30 min | е | noi | othe | Geolo | ograph ation | |
| MUD PROGRA Interval 200' 3,180' | TypeMu Spud Water/LS | 8.8 - 9 | 0.0 Suf | | /30 min | е | noi | othe | Geolo | ograph ation | 0 - TD |
| MUD PROGRA Interval 200' 3,180' CASING PROG | TypeMu Spud Water/LS | 8.8 - 9 ND 8.4 - 9 | 0.0 Suf | fficient to clean hole. | /30 min | e S | nor | Othe | Geolo | ograph ation | 0 - TD |
| MUD PROGRA Interval 200' 3,180' CASING PROG | TypeMu Spud Water/LS GRAM: | 8.8 - 9 ND 8.4 - 9 | 0.0 Suf 0.0 Size | fficient to clean hole. Casing Size | /30 min | e S | nor | othe | Geolo | ograph ation | 0 - TD g, LCM onsite Cement |
| MUD PROGRA Interval 200' 3,180' CASING PROG | TypeMu Spud Water/LS GRAM: | 8.8 - 9 ND 8.4 - 9 | 0.0 Suf | fficient to clean hole. Casing Size | /30 min | e S | nor | Othe | Geolo | ograph ation | 0 - TD |
| MUD PROGRA Interval 200' 3,180' CASING PROG | TypeMu Spud Water/LS GRAM: | 8.8 - 9 ND 8.4 - 9 | 0.0 Suf 0.0 Size | Casing Size | /30 min | e S ead We | nor | Othe | Geolo | ograph ation | 0 - TD g, LCM onsite Cement |
| MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduct | TypeMu Spud Water/LS GRAM: | 8.8 - 9 ND 8.4 - 9 Depth 200' | 0.0 Suf 0.0 Size 12 1/4* | Casing Size | /30 min <9 Grade, Thr H-40 ST8 | e S ead We | sweep | Othe | Geolo | ograph ation | 0 - TD g, LCM onsite Cement |
| MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduct | TypeMu Spud Water/LS GRAM: ring ctor | 8.8 - 9 ND 8.4 - 9 Depth 200' | 0.0 Suf 0.0 Size 12 1/4* | Casing Size | /30 min <9 Grade, Thr H-40 ST8 | e S ead We | sweep | Othe | Geolo | ograph ation | g, LCM onsite Cement cmt to surface |
| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction | TypeMu Spud Water/LS GRAM: ring ctor | 8.8 - 9 ND 8.4 - 9 Depth 200' | 0.0 Suf 0.0 Size 12 1/4* | Casing Size | /30 min <9 Grade, Thr H-40 ST8 | e S ead We | sweep | Othe | Geolo | ograph ation | g, LCM onsite Cement cmt to surface |
| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction Production | TypeMu Spud Water/LS GRAM: ring ctor | 8.8 - 9 ND 8.4 - 9 Pepth 200' 3,180' | 0.0 Suf 0.0 Size 12 1/4* | Casing Size | /30 min <9 Grade, Thr H-40 ST8 | e S ead We | sweep | Othe | Geolo | ograph ation | g, LCM onsite Cement cmt to surface |
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| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction Production CORING PROG None COMPLETION Rigless, Limited GENERAL REI | TypeMu Spud Water/LS GRAM: cring ctor GRAM: PROGRAM d Entry Hyd MARKS: | 8.8 - 9 | 0.0 Suf 0.0 Size 12 1/4* 7 7/8* | Casing Size 8-5/8" 5-1/2" | /30 min <9 Grade, Thr H-40 ST8 | e S ead We | sweep | Othe | Geolo | ograph ation | g, LCM onsite Cement cmt to surface |
| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction Production CORING PROG None COMPLETION Rigless, Limited GENERAL REI | TypeMu Spud Water/LS GRAM: cring ctor GRAM: PROGRAM d Entry Hyd MARKS: | 8.8 - 9 | 0.0 Suf 0.0 Size 12 1/4* 7 7/8* | Casing Size | /30 min <9 Grade, Thr H-40 ST8 | e S ead We | sweep | Othe | Geolo | ograph ation | g, LCM onsite Cement cmt to surface |
| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction Production CORING PROG None COMPLETION Rigless, Limited GENERAL REI | TypeMu Spud Water/LS GRAM: ring ctor GRAM: PROGRAM d Entry Hyd MARKS: OCD 24 hot | Depth 200' 3,180' I: raulic Frac | 0.0 Suf 0.0 Size 12 1/4* 7 7/8* | Casing Size 8-5/8" 5-1/2" | /30 min <9 Grade, Thr H-40 ST8 | e S ead We | sweep | Other hole while w | Geolo er Specific whilst water | ation drilling | g, LCM onsite Cement cmt to surface cmt to surface |
| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction Production CORING PROG None COMPLETION Rigless, Limited GENERAL REI Notify BLM/NM | TypeMu Spud Water/LS GRAM: ring ctor PROGRAM d Entry Hyd MARKS: OCD 24 hor Testing Re | Depth 200' 3,180' I: raulic Frac | 0.0 Suf 0.0 Size 12 1/4* 7 7/8* | Casing Size 8-5/8" 5-1/2" | /30 min <9 Grade, Thr H-40 ST8 J-55 menting. | e Sead Weac 2: | sweep | Other hole while w | Geolo er Specific whilst water | ation drilling | g, LCM onsite Cement cmt to surface |
| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction Production CORING PROG None COMPLETION Rigless, Limited GENERAL REI Notify BLM/NM BOP Pressure | TypeMu Spud Water/LS Water/LS GRAM: ctor GRAM: PROGRAM DENTY Hyd MARKS: OCD 24 hot Testing Retion | Depth 200' 3,180' | 0.0 Suf 0.0 Size 12 1/4* 7 7/8* | Casing Size 8-5/8" 5-1/2" | Grade, Thr H-40 ST8 J-55 menting. | e Sead Weac 2: | sweep | Other hole while w | Geolo Per Specific Whilst water Point Point | ation drilling | g, LCM onsite Cement cmt to surface cmt to surface |
| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction Production CORING PROG None COMPLETION Rigless, Limited GENERAL REI Notify BLM/NM BOP Pressure Format | TypeMu Spud Water/LS GRAM: ring ctor PROGRAM d Entry Hyd MARKS: OCD 24 hor Testing Retion | Depth 200' 3,180' I: raulic Frac urs prior to Spuce equirements Depth | 0.0 Suf 0.0 Size 12 1/4* 7 7/8* | Casing Size B-5/8" 5-1/2" g, and Casing and Cer | /30 min <9 Grade, Thr H-40 ST8 J-55 menting. | e Sead Weac 2: | sweep | Other hole while w | Geolo er Specific whilst water g Point | ation | g, LCM onsite Cement cmt to surface cmt to surface |
| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction Production CORING PROG None COMPLETION Rigless, Limited GENERAL REI Notify BLM/NM BOP Pressure Format Fruitia | TypeMu Spud Water/LS GRAM: ring ctor PROGRAM d Entry Hyd MARKS: OCD 24 hor Testing Retion | Depth 200' 3,180' I: raulic Frac urs prior to Spur equirements Depth 2,878' | 0.0 Suf 0.0 Size 12 1/4* 7 7/8* | Casing Size 8-5/8" 5-1/2" g, and Casing and Cer | /30 min <9 Grade, Thr H-40 ST8 J-55 menting. | e Sead Weac 2: | sweep | Other hole while w | Geolo er Specific whilst water g Point | ation drilling | g, LCM onsite Cement cmt to surface cmt to surface |
| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction Production CORING PROG None COMPLETION Rigless, Limited GENERAL REI Notify BLM/NM BOP Pressure Format Fruitia Pictured | TypeMu Spud Spud Water/LS GRAM: ring ctor PROGRAM d Entry Hyd MARKS: OCD 24 hor Testing Retion and Cliffs | Depth 200' 3,180' I: raulic Frac urs prior to Spuce equirements Depth 2,878' 3,080' | 0.0 Suf 0.0 Size 12 1/4* 7 7/8" | Casing Size 8-5/8 5-1/2 g, and Casing and Cer Anticipated bottom 500 200 | /30 min | e Sead We C 20 15 | ight 0# | Other hole while w | Geolo Per Specific Whilst water Point Point | ation drilling | g, LCM onsite Cement cmt to surface cmt to surface |
| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction Production CORING PROG None COMPLETION Rigless, Limited GENERAL REI Notify BLM/NM BOP Pressure Format Fruitia Pictured | TypeMu Spud Spud Water/LS GRAM: ring ctor GRAM: PROGRAM d Entry Hyd MARKS: OCD 24 hor Testing Retion and Cliffs | Depth 200' 3,180' I: raulic Frac urs prior to Spuce equirements Depth 2,878' 3,080' Pressure Test E | 0.0 Suf 0.0 Size 12 1/4* 7 7/8" | Casing Size 8-5/8 5-1/2 g, and Casing and Cer Anticipated bottom 500 200 | /30 min | e Sead We C 20 15 | ight 0# | Other hole while w | Geolo Per Specific Whilst water Point Point | ation drilling | g, LCM onsite Cement cmt to surface cmt to surface |
| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction Production CORING PROG None COMPLETION Rigless, Limited GENERAL REI Notify BLM/NM BOP Pressure Format Fruitia Pictured | TypeMu Spud Spud Water/LS GRAM: ring ctor GRAM: PROGRAM d Entry Hyd MARKS: OCD 24 ho Testing Re tion and Cliffs ested BOP I wed by: | Depth 200' 3,180' I: raulic Frac urs prior to Spuce equirements Depth 2,878' 3,080' Pressure Test E | 0.0 Suf 0.0 Size 12 1/4* 7 7/8* 1, BOP testine exception = 15 | Casing Size 8-5/8" 5-1/2" g, and Casing and Cel Anticipated bottom 500 200 | Grade, Thr H-40 ST8 J-55 menting. | e Sead We C 20 15 | ight 0# | Other hole while was Landing | Geolo Per Specific Whilst water Point Point | ation drilling | g, LCM onsite Cement cmt to surface cmt to surface |
| REMARKS: MUD PROGRA Interval 200' 3,180' CASING PROG CasingSt Surface/Conduction Production CORING PROG None COMPLETION Rigless, Limited GENERAL REI Notify BLM/NM BOP Pressure Format Fruitla Pictured Reque Form 46 Review | TypeMu Spud Spud Water/LS GRAM: cring ctor GRAM: PROGRAM d Entry Hyd MARKS: OCD 24 hot Testing Re tion and Cliffs ested BOP I wed by: Y: TT/HGJ | Depth 200' 3,180' I: raulic Frac urs prior to Spuce equirements Depth 2,878' 3,080' Pressure Test E | 0.0 Suf 0.0 Size 12 1/4* 7 7/8* 1, BOP testine exception = 15 | Casing Size 8-5/8* 5-1/2* g, and Casing and Cer Anticipated bottom 500 200 500 psi " No | Grade, Thr H-40 ST8 J-55 menting. | e Sead We C 20 15 | ight 0# | Other hole while was Landing | Geological Specific whilst water growth grow | ation drilling | g, LCM onsite Cement cmt to surface cmt to surface |

Cementing Program

| | | | | | · | | |
|-----------------------|-----------------------------------|---------------------------------------|---------------------------------------|--------------|-----------------|----------------------|-------------------|
| | | | | | | | |
| Well Name: | Jacquez GC G 13 | S | | | | | |
| Location: | Sec 29 - 31N - 09 | W. 1410' FSI | 1740' FEL | | API No. | | |
| | | 1 | -, 17 10 7 == | | | | |
| County: | San Juan | 1 | | | Well Flac | <u></u> | |
| State: | New Mexico | | | | Formation: | Fruitland Coal | |
| | | - | | | KB Elev (est) | 6277 | |
| | | | | | GL Elev. (est) | 6266 | |
| | | | | | GL Elev. (est) | 0200 | |
| | | | | | | | |
| Casing Program | : | | | | | | |
| Casing String | Est. Depth | Hole Size | Casing Size | Thread | TOC | | |
| | | | - | | | | |
| | (ft.) | (in.) | (in.) | | (ft.) | | |
| Surface | 200 | 12 1/4 | 8 5/8 | 8rd | Surface | | |
| Production - | 3180 | 7 7/8 | 5 1/2 | 8rd | Surface | | |
| Casing Propertie | | (No Safety F | actor Included) | | | | |
| | | | | | | | |
| Casing String | Size | Weight | Grade | | | | |
| | (in.) | (lb/ft) | | | | | |
| Surface | 8 5/8 | 20 | H-40 |) | | | |
| Production - | 5 1/2 | | | | | | |
| Froduction - | 3 1/2 | . 15.0 | J-00 | , | | | |
| | | | | | | | |
| Mud Program | | | | | | | |
| Apx. Interval | Mud Type | Mud Weight | | Recomme | nded Mud Proper | ties Prio Cementing: | |
| • | maa rypo | Wide Worgin | | | | aco i no Comonana. | |
| (ft.) | | | | PV | <20 | | |
| | | | | YP | <10 | | |
| 0 - SCP | Water/Spud | 8.6-9.2 | <u> </u> | Fluid Loss | s <6 | | |
| SCP - TD | Water/LSND | 8.6-9.2 | | | . • | | |
| 3CF - 1D | Water/Lond | 0.0-9.2 | • | | | | |
| | *** | | | | | | |
| Cementing Progra | am: | | | | | | |
| | | | Surface | | Production | | |
| Evenes O/ Lond | | | | | | | |
| Excess %, Lead | | | 100 | | 40 | | |
| Excess %, Tail | | | NA | | 40 | | |
| BHST (est deg. F | ;) | | 75 | | 120 | | |
| | | | 1,6 | | | | |
| Special Instructio | | | | | 2,4,6 | | |
| | Do not wash p | oumps and line | es. | | | | |
| | 2. Wash pumps | and lines. | | | | | |
| | 3. Reverse out | | | | | | |
| | | | | | | | |
| | 4. Run Blend Te | | | | | | |
| | Record Rate, | Pressure, and | Density on 3.5" | disk | | | |
| | 6. Confirm densi | itometer with r | ressurized mud | scales | | | |
| | | | | | | | |
| | 10 1 1 ₁₁ = 1 | | · · · · · · · · · · · · · · · · · · · | | | | |
| Surface: | | | | | | | |
| | Preflush | | 20 bbl. | FreshWat | ter | | |
| | | | | | | | |
| | 01 | 400 | 0 0 0 | | | | 405 6 |
| | Slurry 1 | 130 | o sx Class C Cer | | | | 165 cuft |
| | TOC@Surface | | + 2% CaCl2 (a | ccelerator) | | | |
| | - | | · | · | | | 0.4127 cuft/ft OH |
| | | | | | | | 0.4127 Calert O11 |
| | | | | | | | |
| Slurry Properties | • | Density | | Yield | | Water | |
| | | (lb/gal) | | (ft3/sk) | | (gal/sk) | |
| | | | _ | • • | _ | | |
| | Slurry 1 | 15.: | 2 | 1.2 | 7 | 5.8 | |
| | | | | | | | |
| Casing Equipmen | nt. | 0 E/0* 0D 0 | TOC | | | | |
| Casing Equipmen | 111. | 8-5/8", 8R, S | | | | | |
| | | 1 Guide Sho | e | | | | |
| | | 1 Top Wood | len Plua | | | | |
| | | | = | | | | |
| | | | ert float valve | | | | |
| | | Centralizers | , 1 per joint exce | pt top joint | | | |
| | | 1 Stop Ring | | | | | |
| | | 1 Stop King 1 Thread Lock Compound | | | | | |
| | | i inreadio | ck Compound | | | | |

Cementing Program

| Production: | | | · :: | | | |
|-------------------|-------------|-------------------|------------------|---------------------|------------------------|----------|
| | Fresh Water | 10 | bbl | CW100 | | |
| | | | | | | |
| | | | | | | |
| | Lead | | 246 | sx Class "G" Ceme | ent | 642 cuft |
| | Slurry 1 | | | + 3% D79 extended | r | |
| | TOC@Surface | | | + 2% S1 Calcium (| Chloride | |
| | | | | +1/4 #/sk. Cellopha | ane Flake | |
| | | | | + 0.1% D46 antifoa | am' | |
| Tail Slurry 2 | | | 96 | sx 50/50 Class "G" | /Poz | 121 cuft |
| | | | | + 2% gel (extender | ·) | |
| | 500 | Oft fill | | 0.1% D46 antifoam | 0.1733 cuft/ft OH | |
| | | <u> </u> | | +1/4 #/sk. Cellopha | 0.2009 cuft/ft csg ann | |
| | | | | + 2% CaCl2 (accel | erator) | |
| Slurry Properties | : | Density | | Yield | Water | |
| | | (lb/gal) | | (ft3/sk) | (gal/sk) | |
| Slurry 1 | | 11.4 | | 2.61 | 17.77 | |
| Slurry 2 | | 13.5 | | 1.27 | 5.72 | |
| Casing Equipme | nt: | 5 1/2", 8R, ST& | С | | | |
| | | 1 Float Shoe (au | utofill with min | imal LCM in mud) | | |
| | | 1 Float Collar (a | utofill with mir | nimal LCM in mud) | | |
| | | Centralizers as | needed | | | |
| | | 1 Top Rubber P | lug | | | |
| | | 1 Thread Lock (| Compound | | | |

SAN JUAN BASIN Basin Fruitland Coal Pressure Control Equipment

Background

The objective Fruitland Coal formation maximum surface pressure is anticipated to be less than 1000 psi, based on shut-in surface pressures from adjacent wells. Pressure control equipment working pressure minimum requirements are therefore 2000 psi. Equipment to be used will conform to API RP-53 (Figure 2.C.2) for a 2000 psi system per Federal Onshore Order No. 2. Due to available conventional equipment within the area, 3000 psi rated pressure control equipment will typically be utilized in a single ram type arrangement. Regional drilling rights to be utilized have substructure height limitations which exclude the use of annular preventers; therefore a rotating head will be installed above these rams. This pressure control equipment will be utilized for conventional drilling below conductor to total depth in the Basin Fruitland Coal. No abnormal temperature, pressure, or H2S anticipated.

Equipment Specification

Interval

BOP Equipment

Below conductor casing to total depth 11" nominal or 7 1/16", 2000 psi Single ram preventer with 3000 psi annular preventer and rotating head. All ram type and annular preventers as well as related control equipment will be hydraulically tested to 250 psi (low pressure) and 1500 psi (high pressure), upon installation, following any repairs or equipment replacements, or at 30 day intervals. Accessories to BOP equipment will include kelly cock, upper kelly cock with a handle available, floor safety valves and choke manifold which will also be tested to equivalent pressure.

BP American Production Company

Well Control Equipment Schematic



