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DEPARTM	INE	OF	THE	INTERIOR		
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	- Au		Unit Agreement
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RESOURCES OIL	& GAS COMPANY		
	To the second	8	Well Name & Num
Address & Phone No. of Opera	itor		Hancock B #5E
PO Box 4289, Farmington, NM		1 9.	API Well No.
20 200 2200, 200 3 ,			30-045-24078
Location of Well, Footage, S	Sec., T, R, M	10.	Field and Pool
1450'FSL, 1160'FEL, Sec.31,			Basin FTC/Basin
,,	•	11.	County and Stat
			San Juan Co, M
2. CHECK APPROPRIATE BOX TO IN	DICATE NATURE OF NOTICE, RE	PORT, OTHER	R DATA
Type of Submission	Type of Action		
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Subsequent Report	32 3		Fracturing
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Final Abandonment			
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District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV

PO Box 2088, Santa Fc, NM 87504-2088

State of New Mexico Energy, Minerals & Natural Resources Department

Form C-102 Revised February 21, 1994 Instructions on back

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

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT													
-	.Pl Numbe	T		¹ Pool Code 71629/71599		' Pool Name							
30-045-2			716	29/71		Basin Fruitland Coal/Basin Dakota							
* Property (Code			Hancock B				* Well Number 5 E					
'OGRID	No.				' O ₁	perator	erator Name 'Elevation				* Elevation		
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							1450'		 	Certificate	Number		

Hancock B #5E

P & A the Dakota and Recomplete in the Fruitland Coal AIN: 5056001 1450' FSL and 1160' FEL, Section 31, T-28-N, R-9-W San Juan Co., New Mexico

Note: All cement volumes use 100% excess outside pipe and 50' excess inside pipe. The stabilizing wellbore fluid will be 8.3 ppg, sufficient to balance all exposed formation pressures.

 Install and test location rig anchors if necessary. Prepare blow pit. Comply with all NMOCD, BLM, and Burlington safety regulations. MOL and RU daylight pulling unit. Conduct safety meeting for all personnel on location. NU relief lines and blow down well; kill with water as necessary. ND wellhead and NU BOP. Test BOP.

*** P&A Procedure ***

- 2. Plug #1 (Dakota Interval, 6470' 6370'): PU 4 joints tubing workstring and tag CIBP at 6470'. Load casing with water and circulate well clean. Establish rate into casing leak. If casing does not test, then spot or tag subsequent plugs as appropriate. Mix 12 sxs Class B cement and spot a balanced plug above the CIBP to isolate Dakota perforations and cover top. PUH to 5674'.
- 3. Plug #2 (Gallup top, 5674' 5574'): Mix 12 sxs Class B cement and spot a balanced plug inside casing to cover the Gallup top. PUH to 3744'.
- 4. Plug #3 (Mesaverde top, 3744' 3644'): Mix 20 sxs Class B cement, (increased cement due to casing leak), and spot a balanced plug inside casing to cover the Mesaverde top. PUH to 2205'.
- 5. Plug #4 (Chacra tops, 3114' 3014'): Mix 12sxs Class B cement and spot a balanced plug inside casing to cover Chacra tops. TOH. WOC.

*** Stage One *** Lower Coal

- 6. Run fluid tests on water. Filter water based upon stimulation company solids water analysis. Contact Production Engineer and discuss stimulation water source and quality. Inspect wellsite, verify and report wellhead size and pressure rating. Mark location with flagging for tank spotting. Spot four (4) frac tanks and fill w/ 2% KCl water. Put one load of fresh water in each tank before adding 2% concentrated KCl water. Set location proppant container and fill with sand.
- 7. RU wireline. Set 4-1/2" top drillable BP at 2202' on wireline. Pressure test 4-1/2" csg and BP to 1000 psi. Run GR, CNL, and CBL from 2200' to 1200'. Pressure csg to 1000 psi if necessary to see bond. Hot-shot logs to Production Engineer so perfs can be picked.
- 8. RU stimulation company. Pressure test casing to 3800 psi (80% of burst). RD stimulation company.
- 9. RU wireline company with packoff. Perf approximately 25' of FTC w/ 2 SPF. Perf using 3-1/8" hollow steel carrier guns loaded w/Owen HSC 13 gm. charges phased at 90 degrees. Average perf dia. = 0.48". Average penetration is 18" in Berea. RD wireline company.
- 10. NU 4-1/16" 5000 psi full bore frac valve. Check pressure ratings on complete wellhead to ensure all fittings are rated to at least 5000 psi. Lay flowback line to pit.

- 11. RU stimulation company. Pressure test surface lines to 4800 psi. Breakdown perforations at 10 BPM with 1000 gals 10% Formic Acid. Pump 2 bbl acid. drop 100 7/8" 1.3 SG balls at 4 balls per barrel until 20 bbls of acid are pumped. Spin the ball gun out during remainder of acid (1BBL) to empty ball gun. Displace acid with 2% KCl water to bottom perforation. Balloff to maximum pressure of 3800 psi. Record breakdown pressure, ball action, and ISIP. RD stimulation company.
- 12. RU wireline company with packoff. RIH with junk basket. Knock off balls and POOH. Record total ball recovery and number of hits. RD wireline company.
- 13. RU stimulation company to frac down 4-1/2" casing. Hold pre-job safety meeting with all personnel on location. Pressure test surface lines to 4800 psi prior to stimulation. Fracture stimulate in 1.0 to 5.0 ppg stages at 50 BPM constant downhole rate 20# gel, Delta Foam, Sandwedge and 100,000# 20/40 mesh Arizona sand. Maintain a bottom hole frac gradient of 1.10 psi/ft throughout job. Tag sand with Sb124 isotope. When sand is in hopper and the concentration begins to drop, call flush. Flush to top perf with +/- 32 Bbls. Maximum surface treating pressure is 3800 psi. Monitor bottomhole treating pressure, surface treating pressure, downhole rate, foam quality, and sand concentration with computer van. Treat per the following schedule:

Stage	Fluid Volume (gal)	CONC	Sand Volume (lbs)	<u>Type</u>
1 - Pad	17,000		0	
2 - SLF	5,000	l #/gal	5,000	20/40 Arizona
3 - SLF	5,500	2 #/gal	11,000	20/40 Arizona
4 - SLF	5,500	3 #/gal	16,500	20/40 Arizona
5 - SLF	7,500	4 #/gal	30,000	20/40 Arizona
6 - SLF	7,500	5 #/gal	37,500	20/40 Arizona
<u> 7 - Flush</u>	<u>1,400</u>			
Totals	49,400		100,000	

- 14. Shut well in for one hour after frac and record ISIP. After ISIP is recorded, RD stimulation company.
- 15. RU wireline under lubricator. Set 4-1/2" top drillable BP at 2100' on wireline. RD wireline.
- 16. Install MB isolation tool and pressure test casing to 3800 psi for 15 minutes. TIH w/ 2-3/8" tbg and spot 100 gals of 10% Formic Acid across upper FTC perfs which will be determined. TOH.
- 17. Fill 4- 400 bbl. frac tanks with 2% KCl water. If necessary, filter all water to 25 microns.

*** Stage Two *** Upper Coal

- 18. Perforate approximately 25' of upper FTC w/ 2 SPF as determined by the Production Engineer. Perf using 3-1/8" hollow steel carrier guns loaded w/Owen HSC 13 gm. charges phased at 90 degrees. Average perf dia. = 0.48". Average penetration is 18" in Berea.
- 19. NU 4-1/16" 5000 psi full bore frac valve. Check pressure ratings on complete wellhead to ensure all fittings are rated to at least 5000 psi. Lay flowback line to pit.
- 20. RU stimulation company. Pressure test surface lines to 4800 psi. Breakdown perforations at 10 BPM with 900 gals 10% Formic Acid. Pump 2 bbl acid. drop 100 7/8" 1.3 SG balls at 5 balls per barrel until 18 bbls of acid are pumped. Spin the ball gun out during remainder of acid to empty ball gun. Displace acid with 2% KCl water to bottom perforation. Balloff to maximum pressure of 3800 psi. Record breakdown pressure, ball action, and ISIP. RD stimulation company.
- 21. RU wireline company with packoff. RIH with junk basket. Knock off balls and POOH. Record total ball recovery and number of hits. RD wireline company.

22. RU stimulation company to frac down 4-1/2" casing. Hold pre-job safety meeting with all personnel on location. Pressure test surface lines to 4800 psi prior to stimulation. Fracture stimulate in 1.0 to 5.0 ppg stages at 50 BPM constant downhole rate 20# gel, Delta Foam, Sandwedge and 100,000# 20/40 mesh Arizona sand. Maintain a bottom hole frac gradient of 1.10 psi/ft throughout job. Tag sand with Ir192 isotope. When sand is in hopper and the concentration begins to drop, call flush. Flush to top perf with +/-30 Bbls. Maximum surface treating pressure is 3800 psi. Monitor bottomhole treating pressure, surface treating pressure, downhole rate, foam quality, and sand concentration with computer van. Treat per the following schedule:

Stage	Fluid Volume (gal)	CONC	Sand Volume (lbs)	Type
1 - Pad	17,000		0	
2 - SLF	5.000	1 #/gal	5,000	20/40 Arizona
3 - SLF	5,500	2 #/gal	11,000	20/40 Arizona
	5,500	3 #/gal	16,500	20/40 Arizona
4 - SLF		_	30,000	20/40 Arizona
5 - SLF	7.500	4 #/gal	•	20/40 Arizona
6 - SLF	7,500	5 #/gal	37,500	20/40 Alizona
7 - Flush	<u>1,400</u>			
Totals	49,400		100,000	

- 23. Open well through choke manifold and monitor flow. Flow at 20 bbl/hr, or less if sand is observed. Take pitot gauges when possible.
- 24. TIH w/ 3-7/8" bit on 2-3/8" tbg and CO w/air/mist to BP at 2100'. Monitor gas and water returns and <u>take</u> <u>pitot gauges when possible.</u> When well is sufficiently clean, drill BP at 2100'. Clean out to BP at 2202' w/air/mist. Monitor gas and water returns and <u>take pitot gauges when possible.</u>
- 25. TIH w/2-3/8" tbg w/standard seating nipple one joint off bottom and again cleanout to 2202'. When wellbore is sufficiently clean, land tbg at 2180' KB. <u>Take final water and gas rates.</u>
- 26. ND BOP and NU wellhead and tree. Rig down and release rig.
- 27. Run after frac gamma-ray log from 2202' 1700'.

Recommended:

h mit

Approved:

Drilling Superintendent

VENDORS:

Wireline: BWWC 326-6669
Fracturing: Howco 325-3575
RA Tagging: Pro-Technics 326-7133