SOUTHLAND ROYALTY COMPANY

Armstrong "17" Federal No. 1 1980' FSL & 660' FWL Sec. 17, T-18-S, R-33-E Lea County, New Mexico NM-55151

To supplement USGS Form 9-331C "Application to Drill the following additional information is submitted concerning questions on Page 5 of NTL-6:

- 1. See Form 9-331C.
- 2. See Form 9-331C.
- The geological name of surface formation is: Quaternary Alluvium 3.
- See Form 9-331C. 4.
- 5. See Form 9-331C.
- The estimated tops of important geological markers are: 6.

Rustler Salt	1390' 1640'	Queen Delaware Sand	4100' 5000' 8410'	3rd Bone Springs Wolfcamp	9850' 10,300'
B/Salt	2700	1st Bone Springs		worreamp	
Yates	2850'	2nd Bone Springs	י 9000		

The estimated depths at which anticipated water, oil gas and mineral bearing 7. strata are as follows:

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1st Bone Springs 8410' - 0il
2nd Bone Spring 9000' - 0il
3rd Bone Springs 9850' - 0il
Wolfcamp
                      10,300' - 0il
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- 8. See Form 9-331C. All casing will be new.
- See Form 9-331C for depths of strings. Cement volumes and additions as 9. follows:
 - 13 3/8" csg: Cement w/400 sx C1 "C" cmt. Circ to surface. a.
 - b. 8 5/8" csg: Cement w/800 sxs Lite cmt and 200 sxs Cl "C" neat. Circ to surface.
 - 5 1/2" csg: Cement w/700 sxs C1 "H". TOC @ 8000'. С.

A caliper log will be run prior to setting 13 3/8", 8 5/8" & 5 1/2" pipe to determine exact cement volumes required.

- The pressure control diagram is attached to Form 9-331C. The following 10. additional information is as follows:
 - 13 3/8" casing installation: 13 5/8"-3M annular BOP tested to 1000 psi for 30 minutes before drilling out 13 3/8" casing shoe.

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