Failed to circulate. Pumped 135 BW down dasing thru perforations @ 4200'. Failed to circulate. Pumped 120 BW down tubing thru casing perforations @ 4860'. Failed to circulate. Shut in. Pulled 2 1/2" tubing & packer. Rigged up casing pullers. Welded 5 1/2" x 2" lift nipple to casing. Pulled w/30,000# but failed to move casing. Pulled 287,000# on casing. Worked slips free & removed same. Ran Dia-Log free point indicator, found casing free down to 3600'. 11 point drop # 4618', 34 point drop @ 4625', zero reading # 4700'. 5 1/2" casing weight 180,000#. Obtained 9" stretch w/290,000# pull (including weight of casing). Ran 4 joints 2 1/2" tubing w/retrievable comenter. Set @ 4475'. Pumped 150 BW down tubing while moving casing up & down. Failed to circulate between perforations 4200' & 4860'. Shut well in. Pulled tubing & 5 1/2" nipple & retrievable cementer. Set 5 1/2" CI Baker 2-A cement retainer @ 4845'. Ran 2 1/2" tubing & engaged cement retainer. Pumped into casing perforations @ 4860' w/water. Mixed 400 sx. cement. Pumped 15 bbls. cement thru casing perforations 3 4860'. Pressure increased to 2000 psi. Pumped 5 bbls. cement 3 2000 psi. Cleared perforations w/10 BW. After WOC 24 hours pumped into casing perforations @ 4860' @ 1800 psi & 2 3/4 b/m w/water. Mixed 100 sx. cement. Pumped 10 bbls. cement thru casing perforations @ 4860' & pressure increased to 2000 psi. Finished pumping 100 sx. cement @ 2000 psi. Cleared perforations w/10 BW. After WOC 24 hours pumped water into casing perforations @ 2 b/m w/2200 psi. Mixed 100 sx. cement. With 7 bbls. cement in formation pressure dropped 2200 - 1400 psi. With 13 bbls. in formation pressure pressure gradually increased to 2600 psi. Final pressure 2600 psi. Cleared perforations w/10 BW. After WOC 24 hours pumped into casing perforations w/water @ 1 3/4 b/m w/2900 psi. Mixed 100 sx. cement. With 4 bbls. in formation pressure decreased to 2200 psi. With 9 bbls. in formation pressure dropped to 3300 psi. With 16 bbls. in formation pressure built up to 4400 psi. With 20 bbls. in formation pressure 3400 psi. Final pressure 3400 psi. Cleared perforations w/10 BW. After WOC 24 hours pumped water into casing perforations @ 4860' @ 1.5 b/m w/3200 psi. Mixed 100 sx. cement. With 5 bbls in formation pressure decreased to 2100 psi. With 20 bbls. in formation pressure increased to 2800 psi. Cleared perforations w/10 BW. After WOC 48 hours pumped into casing perforations @ 4860' w/water @ 3300 pei & 1 1/2 b/m. Mixed 100 sx. cement. With 7 bbls. cement in formation pressure bled to 2200 psi. Pressure gradually increased to 3200 psi w/20 bbls. in formation. Final pressure 3200 psi. Cleared all perforations w/10 BW. After WOC 72 hours pumped into casing perforations 3 4860! w/water 3 1 1/2 b/m w/3200 psi. Fumped 10 BO down tubing followed by 50 sx. DOC slurry 4 50 BO 4 100 sx. regular cement. DOC on formation @ 2900 psi. With 6 bbls. cement in formation pressure decreased to 2300 psi. Pressure gradually increased to 4000 psi w/20 bbls. cement in formation. Final pressure 4000 psi. Ran junk basket to 48301. A Perforated @ 4615' w/4 holes. Ran Baker cement retainer & set @ 4600'. Pumped into formation thru casing perforations @ 4615' w/water @ 2600 psi & 2 1/4 b/m followed by 250 gallons 10% MCA & 100 sx. cement. With 4 bbls in formation pressure 3400 psi. broke to 1000 psi. With 11 bbls. in formation recovered returns thru Bradenhead. With 20 bbls. in formation pressure 2400 psi. Final pressure 2400 psi. Pulled tubing & stinger. After WOC 48 hours drilled cement to 4634'. Perforated 5 1/2 casing 4621' -4622! w/4 jet shots per foot. Set 5 1/2" Baker 2-A CI cement retainer @ 4595!. Pumped into casing perforations 3 4621' w/water 3 2500 psi & 2 1/4 b/m. Mixed 100 ex. coment. With 4 bbls. in formation pressure decreased to 1600 psi. Gradually increased to 2800 psi w/20 bbls. in formation. Final pressure 2800 psi. Pulled tubing. Drilled cement to 4845'. Perforated 5 1/2" casing 4806' = 4830' & 4838' - 4832' w/4 jet shots per foot. Treated perforations w/2000 gallons 10% MCA. Loaded casing annulus w/76 BO. Pumped 20 BO into formation. Treated thru casing perforations via 2 $1/2^{*}$ tubing v/20,000 gallons gelled lease crude (Control-frac) containing 1/20#/gallon fluid-loss additive & 1#/gallon sand. Overflushed w/140 BO.

After recovering load pumped 61 BOPD + 75 BW w/11-64" SPM. GOR 511.

The set of sizedate, rune ad 135 RW fown dasing thre perforations of \$2001. Friled to size these shared 120 of even tubine three easing neuforetions of \$601. Welled to circuite. Shetin.

Aulisi Colla tubing A packer. Rigged up assing sullers. Welded 51/27 × 28 lift Mag is to desire 1 Milet w/30,000 but failed to move desire. Pulled 797.000% on areirs. Morred sites freeds recoved same. Ten Dis-Log free point indicator, found as a state hourd and and a first down to Mark to 9 1714 1. 5 1/2" crains weight 1: .0004. Obtained 9" stretch a/270.000% out Such the estimat of casinal. For & joints 3 1/2" tubing w/retrieveble center. set level. Sumed IS an down build while nowing castra up & down. Failed to Girul ve Detween nerfimitione 10001 a 10601. Shut well in. Pulles tubing & 5 1/2" ripule & reprievable cementer. Set 5 1/2" GT 5ab r 2-4 Camert resulture (315). Ban 2 3/2" tubiov & engaged camert retainer. Compet into erforstione. 5860' w/water. Mixed 50 er. dement. Sugned 15 ouls. resent . 1/5 KO thro weather serforetions 48661. Pressure increased to 2000 st. Dumed 5 buls. causht Divi pai. Closted verforstions wild BW, After WOO 24 hours numped anto obsing serferations a b8601 a 1800 pat & 2 3/b b/s afaster. Mixed 300 er. cenert. Paqued 10 Mle. Servet When cashing perforations : 456/1 8 pressure increased to 2010 rei. Finished pumping 10% en. centre a 2010 pei. Cleared gerfore tions w/10 bW. After 900 "I hours paaped water 1650 caring perforations a 2 b/m w/2200 pat. Mixed 100 ex. cement. lith 7 bala. cenest in for atl a pressure dropped 200 - 1400 pai. With 15 bhls. in formation pressure pressure gredually increased to 2600 pai. Final pressure 2500 pat. Olected carforations w/10 SW. After WOC 24 hours paged into casing perforations w/w ter - 1 3/2 5/a w/2900 pai. vixed 100 ax. cement. With 1 bbla. in formetion pressure decreased to 200 pet. With 9 bbls. in formation - resears drop ad to 3300 pet. "It's 16 oble. In forgetion presence built up to 440 pei. With 20 bbls. in forgetion creature 24.00 gai. Final pressure 3400 gai. Cleared perforations w/10 3%. After 500 34 bours judged water into coains perforations 2 4800 J 1.5 b/m w/2200 mai. "Stred 10 OI beat! sa. cenert. With 5 bble in formetion preserve decreased to 2100 pet. With 20 bbls. in formation presence icoreased to 2800 cai. Cleared perforations wild 5". After NOC - cours reaged into assistentions a 4-601 w/water - 3700 apt 4 > 1/2 a/a. Mixed 10: av. dement. Lith 7 Fble. cenent in formation pressure bled to 2700 st. Pressure processing increased to 3240 pater/20 bbls. in foreation. Their pressure 3400 pate. Cleared 1 jerfortions w/10 DM. After 600 72 hours purget into costor perforetions - 1360-The set j = 1/2 j/a s/3200 pst. Funped 10 B0 down tables followed by 50 ex. 700 stury f 30 30 4 100 ax. regular cement. 300 or formation - 2900 pai. With 6 bols. Life just will bulk. comput in formation. Final pressure boot pat. Tan just backet to 10001. corforated 3 46151 w/4 holes. Ran Baker cement retainer & set 16661. Sumed Line formerion thre easing perforetions a 2615' w/water 2600 get & 21/2 b/m followed W -DC Willong 105 104 & 100 ex. sevent. With & bbla in formation pressure 3000 wet, ore e to 1000 asi. With 11 bbls, in formation recovered returns thru Bredenhead. with 26 bbls, in formation pressure 2000 ust. Final pressure 2000 pei. Pulled tubing Seliger. After WOG 48 hours drilled cement to #6441. Perforated 5112 caning #6211 -1021 W/W jet shote per foot. Set 5 1/2" Saler 2-A GI cerent reteiner : 55051. Emmed it cost reperiorsticss. MCPU w/w cer : 2500 bails 2 3/4 b/m. Hixed 100 cv. cesent. Ato 1 bols. in formation pressure decrement to 1600 pet. Graduelly increased to 2800 pet 1/2: bbls. in formation. Sinal pressure 2800 pai. Julied tobing. Drilled cenant to 18411. L'erforered 5 1/2" cesing 48661 + 48701 & 48701 - 49301 w/4 jet state ner foct. Treated perforetions w/2000 sellers 101 MGA. loaded casin annulus w/76 20. Dunned 20 30 into formation. Treated thru casing perforations with 2 1/2" whith my C. 607 millions gelled lesse crude (Control-fm 2) containing 1/20% / sellon fluid-loss and tive o 14/ mallon sand. Overflushed w/140 HO.