	Submit 1 Copy To Appropriate District		State of New Me	exico	Form C-103
	<u>District I</u> – (575) 393-6161	Energy, 1	Minerals and Natu	Iral Resources	Revised July 18, 20
	1625 N. French Dr., Hobbs, NM 88240 District II – (575) 748-1283			DIVISION	30-039-05546
	811 S. First St., Artesia, NM 88210	OIL CC	ONSERVATION	DIVISION	5. Indicate Type of Lease
	$\frac{District III}{1000 \text{ Rio Brazos Rd., Aztec, NM 87410}}$	12.	20 South St. Fran	ncis Dr.	STATE FEE
	<u>District IV</u> – (505) 476-3460 1220 S. St. Francis Dr., Santa Fe, NM		Santa re, INIVI o	7303	6. State Oil & Gas Lease No.
	87505				
	SUNDRY NOT (DO NOT USE THIS FORM FOR PROPO DIFFERENT RESERVOIR. USE "APPLIC PROPOSALS)	CES AND REF SALS TO DRILL ( CATION FOR PER	PORTS ON WELLS DR TO DEEPEN OR PL MIT" (FORM C-101) FO	G BACK TO A DR SUCH	7. Lease Name or Unit Agreement Name W O Hughes
	1. Type of Well: Oil Well	Gas Well	Other		8. Well Number 3
	2. Name of Operator LOGOS (	Operating, LLC	2		9. OGRID Number 289408
	2 Address of Operator 2010 Aft	ton Place			10 Dool nome or Wildoot
	5. Address of Operator 2010 Alt	on Flace	1		Blanco PC South
	4. Well Location	, , , , , , , , , , , , , , , , , , , ,			
	Unit Letter L :	1650 feet	from the S	line and	990 feet from the W line
	Section 8	Tov	vnship 24N	Range 03W	NMPM Rio Arriba County
		11. Elevation	(Show whether DR	, RKB, RT, GR, etc.,	
			6864	'GL	
	12 (1 1			CNT /	
	12. Check A	Appropriate E	sox to Indicate N	lature of Notice,	Report or Other Data
	NOTICE OF IN	<b>ITENTION T</b>	O:	SUB	SEQUENT REPORT OF:
	PERFORM REMEDIAL WORK	PLUG AND A	BANDON	REMEDIAL WOR	
		CHANGE PL	ANS 🗌	COMMENCE DRI	
		MULTIPLE C	OMPL []	CASING/CEMEN	I JOB 🗌
	CLOSED-LOOP SYSTEM				
	OTHER:			OTHER:	
	13. Describe proposed or comp	leted operations	s. (Clearly state all $15.714$ NMAA	pertinent details, and	d give pertinent dates, including estimated d
	proposed completion or rec	completion.	E 19.13.7.14 NIVIAU	. For Multiple Cor	npietions: Attach wendore diagram of
R		1			
	LOGOS previously submitted a plan	of action for re	emedial repair dated	8/7/17, after further	analysis it has been determined this well
	proposed wellbore schematics. A cl	osed loop syster	m will be used.	F&A the subject w	en per attached procedure, current and
	Pop				0// -
					CONS
	Reference: RBDMSMPK171535646	59			CC. UN DIST
				11-0	SEP 07 20 3
	#Bring the top of P	Keg#1 up.	to 2480 to C	over the C	510× ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	# Surface plug will nee	d to be a	x minimum o	f 100'	
	( · · · · ·				
	Spud Date:		Rig Release Da	ate:	
		-1	d a a mun lata ta tha h	ent of must be overlade	and haliaf
	I hereby certify that the information	above is true and $\bigcirc$	id complete to the b	est of my knowledg	e and beller.
		1 -			
	SIGNATURE	Eno	TITLEF	Regulatory Specialis	tDATE09/05/2017
	Turne or print name Tamer Carrier	200	E mail address	tooppions@lass	Sourcealle com DUONE: 505 224 4145
	For State Use Only	.15	E-mail address:	_tsessions@logosr	esourcesne.com PHONE:505-324-4145
		2/1	-epui	y Oil & Gas Ir	spector,
	APPROVED BY: DSM Sel	1	TITLE	District #3	DATE 9/22/17
	Conditions of Approval (if any):		R		

Б

## Proposed Plug and Abandonment

August 17, 2017 Page 1

## W O Hughes 03

## 1650' FSL and 990' FWL, Section 8, T-24-N, R-03-W Rio Arriba County, NM, API 30-039-05546 Long: -107.1855164 / Lat: 36.3220863

- Note: All cement volumes use 100% excess outside pipe and 50' excess inside. The stabilizing wellbore fluid will be 8.3 ppg, sufficient to balance all exposed formation pressures. All cement will be Class B, mixed at 15.6 ppg with a 1.18 cf/sx yield.
  - 1. A-Plus will use a steel tank to handle waste fluids circulated from the well and cement wash up.
  - Install and test rig anchors. Comply with all NMOCD, BLM and Williams safety rules and regulations. Prepare a lined waste fluid pit. Conduct safety meeting for all personnel on location. MOL and RU daylight pulling unit. NU relief line and blow well down; kill with water as necessary.
  - 3.
     Rods:
     Yes \_\_\_\_\_
     No \_\_X\_, Unknown \_\_\_\_;

     Tubing:
     Yes \_\_X
     No \_\_\_, Unknown \_\_\_\_, Size \_\_\_\_/, Length 3050';

     Packer:
     Yes \_\_\_\_\_
     No \_\_X, Unknown \_\_\_\_\_, Type \_\_\_\_\_.
- Plug #1 (Pictured Cliffs perforations and Fruitland, Kirtland and Ojo Alamo tops, 2958' 2498'): RIH and set a 5.5" CR at 2958'. RU A-Plus wireline and run CBL. Note: cement plugs may change based on results of CBL.
- 5. Pressure test bradenhead. Results may affect Plug #3 and #4.
- 6. Pressure test tubing to 1000 PSI. <u>Attempt to pressure test casing to 800#</u>. If casing does not pressure test then spot or tag subsequent plugs as appropriate. Mix 58 sxs Class B cement and spot a balanced plug inside casing to isolate the PC interval and cover through the Ojo Alamo top. TOH.
- 7. Plug #2 (water zone top, 1198' 1098'): Perforate squeeze holes at 1198'. Attempt to establish rate if the casing pressure tested. TIH and set 5.5" CR at 1148'. Mix and pump 47 sxs Class B cement, squeeze 30 sxs outside casing and leave 17 sxs inside casing, TOH.
- Plug #3 (Surface casing shoe, 370' 270'): Perforate squeeze holes at 370'. Attempt to establish rate if the casing pressure tested. TIH and set 5.5" CR at 320'. Mix and pump 49 sxs Class B cement, squeeze 32 sxs outside casing and leave 17 sxs inside casing to cover the casing shoe top. TOH.
- 9. Plug #4 (Surface, OD 0'): Perforate squeeze holes based on CBL and bradenhead test. Attempt to establish rate if the casing pressure tested. Mix and pump 100 sxs Class B cement. Note: based on CBL and bradenhead test may determine to set CR.
- 10. ND BOP and cut off wellhead below surface casing flange. Install P&A marker with cement to comply with regulations. Record GPS coordinate for P&A marker on tower report. Photograph P&A marker in place. Cut off anchors and clean up location. Restore location per BLM stipulations.



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**Current Wellbore Schematic** 

Well Name:		W O Hughes 3	R03W/ 1650' ESL & 000'	EW// Date Prepared:	1/12/2017
County:		Rio Arriba	10300 1030 102 0 330	Spud Date:	9/18/1957
API #:		30-039-05546		Completion Date:	10/1/1957
Co-ordinates:		Lat 36.3220863	3 Long -107.1855164	Last Workover Date:	1/9/1981
Elevations:		GROUND:	6864'		
		KB:	6871'		
Depths (KB):		PBTD:	3115'		
		TD:	3145'		
	2.224	All depths KB	Hole Size	Surface Casing: (09/19/1957)	
Surface Casing				Drilled an 11" surface hole to 320'. Set 8-5/8" casing at 320'.	
8-5/8"			0-320	Cemented with 200 sxs cement, circulated cement to surfa	ice
Set at 320				Production Casing: (09/27/1957)	
	320		TOC at surface (circ)	Drilled a 7-7/8" production hole to 3145. Set 5-1/2", 14# casin	
				09/27/1957 at 2450'	it by temp survey run
				03/21/1337 at 2430.	
				Tubing: (02/01/1981)	Length (ft)
				КВ	7.00
				(96) 2-3/8", 4.7#, J-55	3038.00
				(1) SN	1.00
			7-7/8"	(1) pin collar	4.00
			180'-1460'		
				Set at:	3050.00 ft
			TOC at 2450'	Rods: (00/00/0000)	
	333				
	333				
				Bumping Unit:	
				Fullping one.	
				Perforations	
Production Casin				(10/01/57) Pictured Cliffs 6SPE 5/8" 96 holes @ 3038-3054	1 & 54 holes @ 3080' 80'
5-1/2" 14#	<u>u</u>			Frac w/ 25000 gal water and 25000# sand	& 54 Holes @ 5000-85
Set at 3145'				(01/27/81) Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal	12:3 HCI
150 sxs					12.01102
TOC at 2450'	-				
	333			Initial Test:	
				Formations:	
	<u></u>			Ojo Alamo- 2548'	
	0		O Pictured Cliffs 3038'-	Kirtland- 2732'	
	1111		3054'	Fruitland Coal-	
	0		O Pcitured Cliffs 3080'-	Pictured Cliffs- 3008'	
Tables			3089'	Lewis- 3090	
1 UDING				Mancos-	
2-3/0 4.1# J-33				Greenborn-	
SN @ 3045'				Dakota-	
EOT @ 3050'				Additional Notes:	
est it length 31 65				(1/1981) Located small casing leak b/w 30' and surface the	est of the casing tested
eer je longer o 1.00				good. Attempted repair, but casing ressured up to 2000# an	nd could not establish
3	3145'			injection.	
				- After swabbing "drilling mud" in 1980, suspected a casing le	ak and isolated an apparent
		PBTD - 3115'		leak b/w 0'-30'. Attempted repair but pressured to 2000# & h	eld. At the time, comm in
		TD - 3145'		WH was suspected.	
				- BH and casing gas analyses are similar. No direct commun	ication b/w BH & csg.



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**Propoosed P&A Wellbore Schematic** 

Well Name:	W O Hughes 3 Sec 08, T24N	803W 1650' FSL & 990' F	WL	Date Prepared: Last Updated:	1/12/2017
County:	Rio Arriba			Spud Date:	9/18/1957
API #:	30-039-05546			Completion Date	: 10/1/1957
Co-ordinates:	Lat 36.322086	3 Long -107.1855164		Last Workover Date	: 1/9/1981
Elevations:	GROUND:	6864'			
	KB:	6871'			
Depths (KB):	PBTD:	3115'			
	TD:	3145'			-
	All depths KB		Surface Casing: (09	9/19/1957)	
Surface Casing	huunuunuu	Perf and set CR	Drilled an 11" surface	e hole to 320'. Set 8-5/8" casing at 320	ס'.
8-5/8"		spot 100 sxs +/-	Cemented with 20	0 sxs cement, circulated cement to su	urface
Set at 320'	, , , , , , , , , , , , , , , , , , ,	(based CBL)	Production Casing:	(09/27/1957)	
320'	hannanna	TOC at surface (circ)	Drilled a 7-7/8" produ	iction hole to 3145'. Set 5-1/2". 14# ca	asing at 3145'
	<u>Muuuuuuu</u>		Cemented with 15	0 sxs cement; approximate top of cer	nent by temp survey run
Perforate @ 370'		Plug #3 370' - 270'	09/27/1957 at 245	50'.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
0		Class B Cement, 49 sxs			
		32 out and 17 in			
		Set CR @ 1148'			
		C	Tubing: (02/01/1981)	)	Length (ft)
			KB		7.00
	, and the second second		(96) 2-3/8", 4.7#, J-5	5	3038.00
		Plug #2 1198' - 1098'	(1) SN		1.00
		Class B Cement, 47 sxs	(1) pin collar		4.00
Perforate @ 1198'		30 out and 17 in	1/1		
0		Set CR @ 1148'			
				Set at	: 3050.00 ft
		TOC at 2450'	Rods: (00/00/0000)		
	inninnin.				
			Pumping Unit:		
			Perforations:		
Production Casing			(10/01/57) Pictured C	liffs, 6SPF, 5/8", 96 holes @ 3038'-30	054' & 54 holes @ 3080'-89'
5-1/2", 14#			Frac w/ 25000 gal	water and 25000# sand	
Set at 3145'			(01/27/81) Acidize	ed w/ 1000 gal 7-1/2% HCL and 3000	gal 12:3 HCL
150 sxs					
TOC at 2450'		Plug #1 2958' - 2498'			
		Class B Cement,			
		58 sxs	Initial Test:		
		Set CR @ 2958'	Formations:		
<u></u>			Ojo Alamo-	2548'	Nacimiento 1148'
0		O Pictured Cliffs 3038'-	Kirtland-	2732'	
<u></u>		3054'	Fruitland Coal-		
0		O Pcitured Cliffs 3080'-	Pictured Cliffs-	3008'	
		3089'	Lewis-	3090'	
			Mancos-		
			Gallup-		
			Greenhorn-		
			Dakota-		
			Additional Notes:	all as a local data and the second	
			(1/1981) Located sm	all casing leak b/w 30' and surface, th	ne rest of the casing tested
0445			good. Attempted rep	pair, but casing pressured up to 2000#	F and could not establish
3145			injection.		I and a state of
20	DDTD 2445	000	- After swabbing "drill	ing mud in 1980, suspected a casing	leak and isolated an apparent
	TD - 31/5		NH was sussed	impled repair but pressured to 2000# 8	x rield. At the time, comm in
	10-3143		RH and cooling cool	analyses are similar. No direct	upidation b/w PH 9 and
			- bri and casing gas	analyses are similar. No direct comm	unication b/w bri & csg.

See Revised Schematic



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Well Name:         W.O Hughes 3         Date Propared:         11/22017           Location:         Sec 06, 724N, ROW 1550 FSL & 990 FWL         Spud Date:         91/81/957           Co-ordinates:         Lat 30, 920566         Complete:         91/81/957           Co-ordinates:         Lat 30, 920566         Complete:         91/81/957           Co-ordinates:         Cat 30, 920566         Completion Date:         11/192017           Co-ordinates:         Cat 30, 920566         Completion Date:         11/91/957           Depths (KB):         PBT0:         3116         Lat Workover Date:         1/91/991           Surface Casing:         08/71/1957)         Drilled an 11* surface hole to 320: Set 8-5/6* casing at 320*.         Demented with 200 sax cement; cauriace         Performation Casing: (09/71/957)           Surface Casing:         08/27/1957         Drilled an 11* surface hole to 320: Set 8-5/6* casing at 320*.         Demented with 200 sax cement; approximate top of cement to surface           Perforate @ 370*         Puig # 370* 270*         Drilled an 7/76* production hole to 3145'. Set 5-1/2*, 14# casing at 3145'         Completion Casing: (09/71/957)           Perforate @ 1198*         Set CR @ 320*         Tubing: (02/01/1981)         Length (ft)           Case B Carrent, 47 sax         (10) Nin         Set CR @ 303800         Set at: 3050.00
Location:         Sec 6, 724, R03W 1650 FSL & 990 FWL         Last Updated:         1/12/2017           County:         R06 Arriba         Spuid Date:         1/12/2017           API #:         30-039-05546         Completion Date:         1/12/2017           County:         R06 Arriba         Southout:         0/11/1957           Depths (KB):         PBTD:         3115         1/12/2017           TD:         3115         1/12/2017         1/12/2017           Depths (KB):         PBTD:         3116         1/12/2017           TD:         31145         Surface Casing:         (0/19/1957)           Surface Casing:         Perf at 100'         set CR # 30'         Demeted with 20 ass cement, circulated cement to surface           Production Casing:         0/9/27/1957         Demeted with 20 ass cement, approximate top of cement by temp survey run         Og/27/1957 at 2450'.           Perforate @ 1198'         Pig # 310' - 270'         Cemented with 150 ass cement, approximate top of cement by temp survey run         Og/27/1957 at 2450'.           Perforate @ 1198'         Pig # 2198' - 108'         I/148'         Tubing: (0/20/11981)         Length (ft)           KB         ToC at 2450'         Rods: (00/00/000)         I/12'''.         I/12'''.         I/12''''.           Pig # 2198' -
Co-ordinates:         Spud Date:         9/18/1957           Co-ordinates:         Lat 36.3220805 Long -107.1855184         Completion Date:         10/1/1957           Elevations:         GROUND:         6864'         Completion Date:         17/2/1957           Depths (KB):         PBTD:         3115'         Completion Date:         17/2/1957           Surface Casing         All depths KB         Surface Casing:         (0)/19/1957)         Completion Date:         17/2/19/1957           Surface Casing         All depths KB         Perf at 100''         Surface Casing:         Completion Date:         17/2/19/1957           Set at 320'         Spot 10 axs         Spot 10 axs         Commented with 200 sx cement; conclusted cement to surface           Perforate @ 370'         Plug #3 370' - 270'         Coll as surface (arc)         Commented with 150 sx cement; approximate top of cement by temp survey run           09/27/1967 at 2450'         Plug #3 370' - 270'         Class B Comment, 47 sx S3''         30 out and 17 in Set CR @ 320''         Tubing: (02/01/1981)         Length (ft) kg (g8) (g3/2)/'''''''''''''''''''''''''''''''''''
API #:         30-039-05646         Completion Date:         10/1/1957           Co-ordinates:         Lat 8/ Workover Date:         1/8/1991           Last Workover Date:         1/8/1991           Depths (KB):         PBTD:         3115'           TD:         3115'
Co-ordinates: Elevations:         Lat 36.3220683 Long107.1855164         Last Workover Date:         1/8/1981           Elevations:         GROUND:         6864'
Elevations:         GROUND:         6864' 687'1           Depths (KB):         PBTD:         3115'           TD:         3145'           Surface Casing:         All depths KB           Self*         Set at 320'           Set at 320'         Self* CR at 50'           Set at 320'         Soft CR at 50'           Set at 320'         Soft CR at 50'           Perforate @ 370'         Plug #3 370' 200'           Perforate @ 370'         Plug #3 118' - 108''           Perforate @ 1195'         Commende with 300 six cement; approximate top of cement by targe six coment; approximate top of cement by targe six come
KB:         6871'           Depths (KB):         PBTD::         3115'           TD:         3145'           Surface Casing 8-50°         Surface Casing : (09/19/1957)           Set at 320'         Set CR at 50' Sot at 320'           Perforate @ 370'         Pig #3 370' - 270' Class B Cament, 49 css 320 ut and 17 in Set CR @ 320'           Perforate @ 1188'         Pig #2 1198' - 1088' Class B Cament, 49 css 320 ut and 17 in Set CR @ 118'           Perforate @ 1198'         Pig #2 1198' - 1088' Class B Cament, 47 ss 30 ut and 17 in Set CR @ 1148'           Production Casing 5-1/2', 14# Set CR @ 1148'         Camented with 150 sxs cement; approximate top of cement by temp survey run 09/27/1957 at 2450'           Perforate @ 1188'         Pig #2 1198' - 1088' Class B Cament, 47 ss 30 ut and 17 in Set CR @ 1148'           Production Casing 5-1/2', 14# Set CR @ 1148'           Production Casing TOC at 2450'           Ping #1 2988' - 2489' TOC at 2450'           Set CR @ 2958'           Ping #1 2988' - 2489' Class B Cament, 56 sx           Set CR @ 2958'           Set CR @ 2958'           Formations: [0]0 Alamo-           [0]0 Alamo-
Depths (KB):         PBTD:         3115' TD:           Surface Casing 8-5/8'         All depths KB         Perf at 100' set CR at 50'         Surface Casing: (09/19/1957)           Surface Casing 8-5/8'         Surface Casing: (09/19/1957)         Drilled an 11* surface hole to 320'. Set 8-5/8' casing at 320'. Cemented with 200 sax cement. to surface           Perforate @ 370'         Fug #3 370'. 270'         Dilled a 7.7/8 production Casing: (09/27/1957)           Perforate @ 370'         Fug #3 370'. 270'         Class B Cement, 49 sss 32 out and 17 in Set CR @ 320'           Perforate @ 1198'         Fug #2 118'' - 108''         Class B Cement, 49 sss 30 out and 17 in Set CR @ 1148'           Perforate @ 1198'         Fug #2 118'' - 108''         (1) SN           Perforate @ 1198'         TOC at 2450'           Production Casing 5-1/2'', 14#         Set CR @ 1148'           Perforate @ 1198'         Set at 320'           Pug #1 288' - 248''         Set at 3050.00 ft           Production Casing 5-1/2'', 14#         Set at 3050.00 ft           Pug #1 288' - 248''         Set at 3000 gal 12: 3 HCL           TOC at 2450'         Pug #1 288' - 248''           Pug #1 288' - 248''         Set at 3000 gal 30: 30: 30: 30: 30: 30: 30: 30: 30: 30:
TD: 3145'         Surface Casing 8-6/8"         Surface Casing (09/19/1957) set CR at 50' Set at 320'         Surface Casing (09/19/1957) Set at 320'         Surface Casing (09/19/1957) Cols surface for the bit 320'. Set 8-5/8" casing at 320'. Cemented with 150 ses cement, drouble to 3145. Set 5-1/2", 14# casing at 3145' Cemented with 150 ses cement, approximate top of cement by temp survey run 09/27/1957 at 2450'.         Production Casing (09/27/1981)         Length (ft) KB         KB         Production Casing (1) pin collar         All depths KB         Production Casing (09/27/1981)         Length (ft) KB         KB         Production Casing (1) pin collar
Surface Casing 8-5/8°         Surface Casing : (09/19/1957)           Start 320'         Set CR at 50' Set 1 320'         Set CR at 50' Set at 320'         Drilled an 11" surface hole to 320'. Set 8-5/8" casing at 320'. Cemented with 200 axs cement, circulated cement to surface           Perforate @ 370'         Plug #3 370'- 270' Class B Cement, 49 axs 320 ut and 1' in Set CR @ 320'         Drilled a 7-7/8' production hole to 3145'. Set 5-1/2'', 14# casing at 3145'' Cemented with 150 sax cement, approximate top of cement by temp survey run 09/27/1957 at 2450'.           Perforate @ 1198'         Plug #2 1198' - 1098' Class B Cement, 49 axs 30 ut and 1' in Set CR @ 1148'         Tubing: (02/01/1981)         Length (ft) KB           Production Casing 5-1/2'', 14#         Set at: 3050.00 ft         100           Production Casing TOC at 2450'         Set at: 3050.00 ft         100/0000)           Punping Unit:         Perforations: (10/01/57) Pictured Cliffs, 6SPF, 5/8'', 96 holes @ 3038'-3054' & 54 holes @ 3080'-89' Frace w/ 25000 gat water and 25000' sand (01/27/81) Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL           Plug #1 2958' - 2498' Class B Cement, 58 axs         Initial Test:         Set CR @ 2958'
Surface Casing: 8-5/8"         Surface Casing: (Q9/19/1957)           8-5/8"         set CR at 50"           Set at 320"         ToC at surface clock to surface hole to 320. Set 6-5/8" casing at 320. Cemented with 200 six cement, circulated cement to surface           Perforate @ 370"         Forduction Casing: (09/27/1957)           Perforate @ 1198"         Pilug #3 370' - 270'           Class B Cement, 49 six 32 out and 17 in Set CR @ 320"         Image: Casing: C
Surface Casing 8-5/8"         Perf at 100' set CR at 50'         Drilled at 11" surface hole to 320'. Set 8-5/8" casing at 320'. Cemented with 200 sxs cement, cliculated cement to surface           Perforate @ 370'         TCC at surface (circ)         Cemented with 200 sxs cement, structured with 200 sys cement, structured wit
8-5/8" Set at 320' 327 Perforate @ 370' Perforate @ 1198' Perforate @ 1198' Perfora
Set at 320'         Spot 100 sxs         Production Casing: (09/27/1957)           Perforate @ 370'         Pig #3 370' - 270'         Case B Cement, 49 sxs           Q320         Pig #3 370' - 270'         Case B Cement, 49 sxs           Q320 ut and 17 in Set CR @ 320'         Tubing: (02/07/1957)         Length (ft)           VB         Visitian Casing: (09/27/1957)         Case B Cement, 49 sxs           Q320 ut and 17 in Set CR @ 320'         Tubing: (02/07/1981)         Length (ft)           VB         Visitian Casing: (09/07/1981)         Length (ft)           VB         Visitian Casing: (09/07/1981)         Length (ft)           VB         Visitian Casing: (02/07/1981)         Visitian Casing: (02/07/1981)           VB         Visitian Casing Casing: (02/07/1981)         Visitian Casing
320         Priled a 7-7/8" production hole to 3145'. Set 5-1/2", 14# casing at 3145' Cernented with 150 sxs cement; approximate top of cement by temp survey run 09/27/1957 at 2450'.           Perforate @ 370'         Plug # 3 370' - 270' Class B Cement, 49 sxs 32 out and 17 in Set CR @ 320'         Tubing: (02/01/1981) Length (ft) KB         Length (ft) (98) 2-38", 4.7#, J-55           Perforate @ 1198'         Plug # 2 1198' - 1098'         Tubing: (02/01/1981) (1) SN         Length (ft) (1) SN           Perforate @ 1198'         Plug # 2 1198' - 1098'         Rods: (00/00/0000)         Set CR         9 1198'           Perforate @ 1198'         Plug # 1 2958' - 2498'         Rods: (00/00/0000)         Set at: 3050.00 ft         Plug # 2 198' - 308' - 408'           Production Casing 5-1/2", 14# Set at 3145'         Set CR @ 1148'         Rods: (00/00/0000)         Set at: 3050.00 ft           Production Casing 5-1/2", 14# Set at 3145'         Set CR @ 258' - 2498'         Initial Test:         Set CR @ 258' - 2498'           Plug # 1 2958' - 2450'         Plug # 1 2958' - 2498'         Initial Test:         Set CR @ 2588'         Formations: Ojo Alamo-         Diale 2500'         Nacimiento         1148'
Perforate @ 370'         Plug #3 370' - 270'         Cemented with 150 sxs cement, approximate top of cement by temp survey run           Perforate @ 370'         Plug #3 370' - 270'         Og/27/1957 at 2450'.           Perforate @ 370'         Plug #2 1198' - 1098'         Itubing: (02/01/1981)         Length (ft)           KB         7.00         (96) 2-38°, 4.7#, J-55         30038.00         (1) SN           Plug #2 1198' - 1098'         (1) SN         1.00         (1) pin collar         4.00           30 out and 17 in         Set CR @ 1198'         TOC at 2450'         Rods: (00/00/0000)         Set at: 30050.00 ft           Perforate @ 1198'         TOC at 2450'         Rods: (00/00/0000)         Set at: 30050.00 ft         Plug #2 148'           TOC at 2450'         Rods: (00/00/0000)         Set at: 30050.00 ft         Plug #1 2958' - 2498'         Plug #1 2958' - 2498'           510 xxs         TOC at 2450'         Rods: (01/02/167) Pictured Cliffs, 6SPF, 5/8'', 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'           Frac w/ 25000 gal water and 25000# sand
Perforate @ 370'       Plug #3 370' - 270'       09/27/1957 at 2450'.         Objection Continue Option Content Option Continue Option Continue Option Continue Opt
Perforate @ 1198'       Class B Cement, 49 sxs 32 out and 17 in Set CR @ 320'       Tubing: (02/01/1981) (99) 2-3/8", 4.7#, J-55       Class B Cement, 49 sxs 32 out and 17 in Set CR @ 1198'         Perforate @ 1198'       Plug #2 118' - 108' (19) 2-3/8", 4.7#, J-55       3038.00         Plug #2 118' - 108' Class B Cement, 47 sxs 30 out and 17 in Set CR @ 1148'       1.00         TOC at 2450'       Rods: (00/00/0000)         Set at: 3050.00 ft         Pumping Unit:         Perforations:         (10/101/57) Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89' - Frac w/ 25000 gal water and 25000# sand 
Perforate @ 1198'       Otable J 200'       Tubing: (02/01/1981)       Length (ft)         KB       7.00       (96) 2-3/8", 4.7#, J-55       3038.00         Plug #2 1198' - 1098'       (1) SN       1.00         Class B Cement, 47 sxs       (1) SN       1.00         30 out and 17 in       Set CR @ 1148'       Set CR @ 1148'         Focdation Casing       TOC at 2450'       Rods: (00/00/0000)         Pumping Unit:       Perforations:         Production Casing       (10/01/57) Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'         Frace w/ 25000 gal water and 25000# sand       (01/27/81) Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL         105 xss       TOC at 2450'       Formations:         Plug #1 2958' - 2498'       Class B Cement, 58 sxs       Initial Test:         Set CR @ 2958'       Formations:       Ojc Alamo- 2548'       Nacimiento 1148'
Perforate @ 1198'         Set CR @ 320'         Tubing: (02/01/1981) KB         Length (ft) (8) (9) 2-3/8", 4.7#, J-55         Set CR @ 308.00           Plug #2 1198' - 1098' (1) SN         (1) SN         1.00         (1) pin collar         4.00           Class B Cement, 47 xsr 30 out and 17 in Set CR @ 1148'         Set at: 3050.00 ft         Set at: 3050.00 ft           TOC at 2450'         Rods: (00/00/0000)         Set at: 3050.00 ft           Pumping Unit:         Pumping Unit:         Pumping Unit:           Perforations: (10/01/57) Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89' - Frac w/ 25000 gal water and 25000# sand 
Perforate @ 1198'         Discreting @ 100'         Tubing: (02/01/1981)         Length (ft)           KB         7.00         (66) 2-3/8". 4.7#, J-55         30038.00           Piug #2 1198' - 1098'         (1) SN         1.00           Class B Cement, 47 sxs         (1) SN         (1) O           Set CR @ 1148'         Set at: 3050.00 ft           Production Casing         Set at: 3050.00 ft           FTOC at 2450'         Rods: (00/00/0000)           Pumping Unit:         Perforations:           (10/01/57) Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'           Frac w/ 25000 gal water and 25000# sand           (01/27/81) Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL           150 sxs           TOC at 2450'           Piug #1 2958' - 2498'           Class B Cement, 58 sxs           Set CR @ 2958'           Formations:           Ojo Alamo-           Ojo Alamo-           Ojo Alamo-           Ojo Alamo-           Ojo Alamo-
Perforate @ 1198'         Length (t)         Length (t)           Plug #2 1198' - 1098'         (1) SN         1.00           Class B Cement, 47 sxs 30 out and 17 in Set CR @ 1148'         (1) SN         1.00           TOC at 2450'         Rods: (00/00/0000)         Set at: 3050.00 ft           Pumping Unit:
Perforate @ 1198'         KB         7.00           Plug #2 1198' - 1098'         G69 2-3/8", 4.7#, J-55         3038.00           Class B Cement, 47 sxs         1.00           30 out and 17 in         5           Set CR @ 1148'         Set at:           TOC at 2450'         Rods: (00/00/0000)           Pumping Unit:         Pumping Unit:           Production Casing         (10/01/57) Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'           5-1/2", 14#         Set at 3145'           Set at 3145'         150 sxs           TOC at 2450'         Plug #1 2958' - 2498'           Class B Cement, 58 sxs         Initial Test:           Set CR @ 2958'         Formations:           Ojo Alamo-         2548'           Nacimiento         1148'
Perforate @ 1198'       Plug #2 1198' - 108' Class B Cement, 47 sxs 30 out and 17 in Set CR @ 1148'       1.00         Production Casing 5-1/2', 14# Set at 3145' 150 sxs TOC at 2450'       Set at: 3050.00 ft         Pumping Unit:
Pig #2 1198' - 1098'       (1) SN       1.00         Class B Cement,       47 sxs       (1) pin collar       4.00         30 out and 17 in       Set CR @ 1148'       Set at: 3050.00 ft         TOC at 2450'       Rods: (00/00/0000)       Pumping Unit:         Perforations:       (10/01/57) Pictured Cliffs, 6SPF, 5/6", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'         5-1/2", 14#       Frac w/ 25000 gal water and 25000# sand         Set at 3145'       (01/27/81) Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL         150 sxs       TOC at 2450'         Plug #1 2958' - 2488'       Initial Test:         Set CR @ 2958'       Formations:         Ojo Alamo-       2548'         Nacimiento       1148'
Perforate @ 1198'       Class B Cement, 47 sxs 30 out and 17 in Set CR @ 1148'       (1) pin collar       4.00         Production Casing 5-1/2", 14# Set at 3145'       TOC at 2450'       Rods: (00/00/0000)       Image: Collage Coll
Perforate @ 1198'       30 out and 17 in Set CR @ 1148'         Set CR @ 1148'       Set at: 3050.00 ft         TOC at 2450'       Rods: (00/00/0000)         Pumping Unit:       Pumping Unit:         Production Casing 5-1/2", 14# Set at 3145'       Perforations: (10/01/57) Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89' Frac w/ 25000 gal water and 25000# sand (01/27/81) Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL         150 sxs TOC at 2450'       Plug #1 2958' - 2498' Class B Cement, 58 sxs         Set CR @ 2958'       Formations: Ojo Alamo-
Production Casing         Set CR @ 1148'           TOC at 2450'         Rods: (00/00/0000)           Pumping Unit:         Pumping Unit:           Perforations:         (10/01/57) Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'           5-1/2", 14#         Frac w/ 25000 gal water and 25000# sand           Set at 3145'         (10/01/57) Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'           Frac w/ 25000 gal water and 25000# sand         (01/27/81) Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL           150 sxs         TOC at 2450'         Initial Test:           Set CR @ 2958'         Formations:           Olo Alamo-         2548'           Nacimiento         1148'
Production Casing         TOC at 2450'         Rods: (00/00/0000)
Production Casing         5-1/2", 14#         Set at 3145'         150 sxs         TOC at 2450'         Plug #1 2958' - 2498'         Class B Cement,         58 sxs         Set CR @ 2958'         Formations:         Ojo Alamo-         2548'         Nacimiento         1148'
Production Casing         5-1/2", 14#         Set at 3145'         150 sxs         TOC at 2450'         Plug #1 2958' - 2498'         Class B Cement,         58 sxs         Initial Test:         Set CR @ 2958'         Formations:         Ojo Alamo-         2548'         Nacimiento         1148'
Production Casing         Pumping Unit:           5-1/2", 14#         Perforations:           Set at 3145'         (10/01/57) Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'           Frac w/ 25000 gal water and 25000# sand         (01/27/81) Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL           150 sxs         TOC at 2450'           Plug #1 2958' - 2498'         Class B Cement, 58 sxs           Class B Cement, 58 sxs         Initial Test:           Set CR @ 2958'         Formations:           Ojo Alamo-         2548'           Nacimiento         1148'
Production Casing         5-1/2", 14#         Set at 3145'         150 sxs         TOC at 2450'         Plug #1 2958' - 2498'         Class B Cement,         58 sxs         Initial Test:         Set CR @ 2958'         Formations:         Ojo Alamo-         2548'         Nacimiento
Production Casing         5-1/2", 14#         Set at 3145'         150 sxs         TOC at 2450'         Plug #1 2958' - 2498'         Class B Cement,         58 sxs         Initial Test:         Set CR @ 2958'         Formations:         Ojo Alamo-         2548'         Nacimiento         148'
Production Casing         Perforations:           5-1/2", 14#         [10/01/57] Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'           Set at 3145'         Frac w/ 25000 gal water and 25000# sand           150 sxs         [01/27/81] Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL           Class B Cement,         58 sxs           Set CR @ 2958'         Formations:           Ojo Alamo-         2548'           Nacimiento         1148'
Production Casing         Perforations:           5-1/2", 14#         (10/01/57) Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'           Set at 3145'         Frac w/ 25000 gal water and 25000# sand           150 sxs         (01/27/81) Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL           Class B Cement,         58 sxs           Set CR @ 2958'         Formations:           Ojo Alamo-         2548'           Nacimiento         1148'
Production Casing         Perforations:           5-1/2", 14#         (10/01/57) Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'           Set at 3145'         Frac w/ 25000 gal water and 25000# sand           150 sxs         (01/27/81) Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL           Class B Cement,         58 sxs           Set CR @ 2958'         Formations:           Ojo Alamo-         2548'           Nacimiento         1148'
Production Casing         [10/01/57]         Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'           5-1/2", 14#         [10/01/57]         Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'           Set at 3145'         [10/01/57]         Pictured Cliffs, 6SPF, 5/8", 96 holes @ 3038'-3054' & 54 holes @ 3080'-89'           150 sxs         [01/27/81]         Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL           TOC at 2450'         Class B Cement,         58 sxs           Set CR @ 2958'         Formations:           Ojo Alamo-         2548'           Nacimiento         1148'
5-1/2", 14#       Frac w/ 25000 gal water and 25000# sand         Set at 3145'       (01/27/81) Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL         150 sxs       TOC at 2450'         Class B Cement,       58 sxs         Set CR @ 2958'       Formations:         Ojo Alamo-       2548'         Nacimiento       1148'
5-1/2, 14#       Frac W/ 25000 gal water and 25000# sand         Set at 3145'       (01/27/81) Acidized w/ 1000 gal 7-1/2% HCL and 3000 gal 12:3 HCL         150 sxs       Class B Cement,         58 sxs       Initial Test:         Set CR @ 2958'       Formations:         Ojo Alamo-       2548'
Set al 3145       [01/27/81] Acidized W/ 1000 gai 7-1/2% HCL and 3000 gai 12:3 HCL         150 sxs       TOC at 2450'         Class B Cement,       58 sxs         58 sxs       Initial Test:         Ojo Alamo- 2548'
Plug #1 2958' - 2498'         Class B Cement,         58 sxs       Initial Test:         Set CR @ 2958'       Formations:         Ojo Alamo-       2548'       Nacimiento       1148'
File #1 2958 * 2498*           Class B Cement,           58 sxs         Initial Test:           Set CR @ 2958'         Formations:           Ojo Alamo-         2548'         Nacimiento         1148'
Class B Cement,         Initial Test:           58 sxs         Initial Test:           Set CR @ 2958'         Formations:           Ojo Alamo-         2548'           Nacimiento         1148'
58 sxs         Initial Test:           Set CR @ 2958'         Formations:           Ojo Alamo-         2548'           Nacimiento         1148'
Set CR @ 2958'         Formations:           Ojo Alamo-         2548'         Nacimiento         1148'
Set CR @ 2958'         Formations:           Ojo Alamo-         2548'         Nacimiento         1148'
Ojo Alamo- 2548' Nacimiento 1148'
o Pictured Cliffs 3038'- Kirtland- 2732'
Fruitland Coal-
o Pcitured Cliffs 3080'- Pictured Cliffs- 3008'
202 3089' Lewis- 3090'
Mancos-
Gallup-
Greenhom-
Dakota-
Additional Notes:
Additional Notes:
Additional Notes: (1/1981) Located small casing leak b/w 30' and surface, the rest of the casing tested
Additional Notes: (1/1981) Located small casing leak b/w 30' and surface, the rest of the casing tested good. Attempted repair, but casing pressured up to 2000# and could not establish injection
Additional Notes: (1/1981) Located small casing leak b/w 30' and surface, the rest of the casing tested good. Attempted repair, but casing pressured up to 2000# and could not establish injection.
3145'       Additional Notes:         (1/1981) Located small casing leak b/w 30' and surface, the rest of the casing tested         good. Attempted repair, but casing pressured up to 2000# and could not establish         injection.         - After swabbing "drilling mud" in 1980, suspected a casing leak and isolated an apparent         - After swabbing "drilling mud" in 1980, suspected a casing leak and isolated an apparent
3145'       Additional Notes:         (1/1981) Located small casing leak b/w 30' and surface, the rest of the casing tested good. Attempted repair, but casing pressured up to 2000# and could not establish injection.         PBTD - 3115'       - After swabbing "drilling mud" in 1980, suspected a casing leak and isolated an apparent leak b/w 0'-30'. Attempted repair but pressured to 2000# & held. At the time, comm in
3145'       Additional Notes:         (1/1981) Located small casing leak b/w 30' and surface, the rest of the casing tested good. Attempted repair, but casing pressured up to 2000# and could not establish injection.         PBTD - 3115' TD - 3115' TD - 3145'         WH was suspected.         WH was suspected.         BH code casing and provide state

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