

Submit within 45 days of well completion	State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. Santa Fe, NM 87505	Revised November 6, 2013				
		1. WELL API NO: 30-015-43116				
		2. Well Name: HIGGINS CAHOON 12D #003				
		3. Well Number: 003				
HYDRAULIC FRACTURING FLUID DISCLOSURE ☒ Original ☐ Amendment		4. Surface Hole Location: Unit:D Lot:D Section:12 Township:18S Range:26E Feet from:990 N/S Line:N Feet from:990 E/W Line:W				
		5. Bottom Hole Location: Unit:D Lot:D Section:12 Township:18S Range:26E Feet from:990 N/S Line:N Feet from:990 E/W Line:W				
		6. latitude: 32.7670547165235 longitude: -104.340531985564				
		7. County: Eddy				
8. Operator Name and Address: LIME ROCK RESOURCES II-A, L.P. 1111 Bagby Street Suite 4600 Houston 77002		9. OGRID: 277558	10. Phone Number: 713-292-9517			
11. Last Fracture Date: 9/26/2017 Frac Performed by: ELITE		12. Production Type: O				
13. Pool Code(s): 3250		14. Gross Fractured Interval: 2,480 ft to 4,131 ft				
15. True Vertical Depth (TVD): 4,131 ft		16. Total Volume of Fluid Pumped: 1,222,318 gals				
17. Total Volume of Re-Use Water Pumped: 1,222,318 gals		18. Percent of Re-Use Water in Fluid Pumped: 100%				
19. HYDRAULIC FLUID COMPOSITION AND CONCENTRATION:						
Trade Name	Supplier	Purpose	Ingredients	(CAS #) Chemical Abstract Service #	Maximum Ingredient Concentration in Additive (% by mass)	Maximum Ingredient Concentration in HF Fluid (% by mass)
Water	Customer	Carrier/Base Fluid	Water	7732-18-5	100%	81.06116%
Sand (Proppant)	US Silica	Proppant	Silica Substrate	14808-60-7	100%	5.12862%
RCS (Proppant)	Momentive	Proppant	Silica Substrate	14808-60-7	100%	0%
Hydrochloric Acid (15%)	CNR	Acidizing	Hydrochloric Acid	7647-01-0	38.8%	0.08392%
Claymax	Chemplex	Clay Stabilizer	Choline Chloride	67-48-1	62%	0%
4-N-1 Plus	Chemplex	Iron Control, Corr Inhib, Surfactant	Acetic Acid	64-19-7	80%	0.00131%
			Methanol	67-56-1	10%	0.00016%
Plexcide 24L	Chemplex	Biocide	Tetrahydro-3,Dimethyl-2H	533-74-4	24%	0.00548%
Plexset 730	Chemplex	Activator	Secondary Alcohol Ethoxylate	84133-50-6	50%	0%
Plexsurf 240 E	Chemplex	Surfactant	Methyl Alcohol	67-56-1	10%	0.00801%
			2-Butoxyethanol	111-76-2	50%	0.04003%
Plexslick 953	Chemplex	Friction Reducer	Alcohol Ethoxylate Surfactants	Proprietary	8%	0.01324%
			Hydrotreated Petroleum Distillate	64742-47-8	30%	0.04964%
			Polyacrylamide-co-Acrylic Acid	9003-06-9	31%	0.05129%
AMA 398	Chemplex	Biocide	Tetrahydro-3,Dimethyl-2H	533-74-4	98%	0%
Plexgel 907 LE	Chemplex	Polymer	Guar Gum	9000-30-0	50%	0%
			Mineral Oil	64742-47-8	55%	0%
			Bentonite Clay	14808-60-7	2%	0%
			Surfactant	68439-51-0	2%	0%
Plexbor 101	Chemplex	Crosslinker	Ethylene Glycol	107-21-1	9.99%	0%
			Potssium Metaborate	13709-94-9	30%	0%
			Potassium Hydroxide	1310-58-3	5%	0%
Plexgel Breaker 10L	Chemplex	Gel Breaker	Mannanase Enzymes	Proprietary	2%	0%
			Sodium Chloride	7647-14-5	15%	0%
Sodium Persulfate	Chemplex	Gel Breaker	Sodium Persulfate	7775-27-1	98%	0%
Buffer 11	Chemplex	PH Control	Potassium Hydroxide	1310-58-3	23%	0%
Greenhib 679	Chemplex	Scale Inhibitor	Glycerine	56-81-5	35%	0.00548%
			Proprietary	Proprietary	35%	0.00548%
			Water	7732-18-5	30%	0.0047%
Plexcide 15G	Chemplex	Biocide	Glutaraldehyde	111-30-8	10%	0.00245%
			Didecyldimethylammonium Chloride	7173-51-5	1%	0.00025%
			Benzyl-C12-C16-alkydimethyl	68424-85-1	1%	0.00025%
					0%	0%
					0%	0%
					0%	0%
20. I, as Operator, hereby certify that the information shown on this disclosure form is true and complete to the best of my knowledge and belief.						
Signature: Signed Electronically		Printed Name: Mike Pippin		Title: Consultant		
Date: 10/26/2017						
E-mail Address: mike@pippinllc.com						

NMOCD does not require the reporting of information beyond MSDS data as described in 29 CFR 1910.1200. NMOCD does not require the reporting or disclosure of proprietary, trade secret or confidential business information.