

RICHARDSON OPERATING COMPANY

FRACTURE TREATMENT REPORT

Operator: Richardson Operating Company Well Name: Ropcp 10 #1
Date: 9/19/02
Field: W. Kutz PC Location: 10T29NR14 County: San Juan State: NM
Stimulation Company: Schlumberger Supervisor: Carnes

Stage#: 1

Sand on location (design): 50,000 Weight Ticket: 45,553# Size/type: 20/40 Arizona

Fluid on location: No. of Tanks: 2 Strap: 80 Amount: 800 Bbl Usable: 720 Bbl

Perforations

Depth: 892'-902' Total Holes: 40 PBTD: 947'
Shots per foot: 4 EHD: 0.37"

Breakdown

Acid: 500 gal 15% HCL
Balls: N/A
Pressure: 2216/981

Stimulation

ATP: 850 psi AIR: 29.4 bpm
MTP: 2387 psi MIR: 36.7 bpm

	Sand Stage	Pressure	Breaker Test
ISIP: <u>453</u>	pad	981	
5 min: <u>416</u>	1 ppg	912	
10 min: <u>412</u>	2 ppg	812	
15 min: <u>401</u>	3 ppg	794	
	4 ppg	750	
	5 ppg	762	
	6 ppg	781	

Job Complete at: 8:09 hrs Date: 9/19/02 Start flow back: _____

Total Fluid Pumped: 520 Bbl

Total Sand Pumped: 45,553# Total Sand on Formation: 45,553#

Total Nitrogen Pumped: 0

Notes: