Form 9-331
Dec. 1973

Form Approved.
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals..

1. oil well [X] gas well [ ] other

2. NAME OF OPERATOR ARCO Oil and Gas Co.,Div. of Atlantic Richfield Company

3. ADDRESS OF OPERATOR 707 - 17th Street, P.O. Box 5540, Denver, Colo. 80217

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.) Unit "I",
AT SURFACE: (NE SE) 1350' FSL & 1250' FEL,
AT TOP PROD. INTERVAL: Appx. same Sec.32
AT TOTAL DEPTH: Appx. same

5. LEASE 14-20-603-734

6. IF INDIAN, ALLOTTEE OR TRIBE NAME Navajo

7. UNIT AGREEMENT NAME Horseshoe Gallup Unit

8. FARM OR LEASE NAME Horseshoe Gallup Unit

9. WELL NO. 296

10. FIELD OR WILDCAT NAME Horseshoe Gallup

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 32-31N-16W

12. COUNTY OR PARISH San Juan 13. STATE New Mexico

14. API NO. 30-045-22101

15. ELEVATIONS (SHOW DF, KDB, AND WD) 5336' GR

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	[ ]		[ ]
FRACTURE TREAT	[ ]		[ ]
SHOOT OR ACIDIZE	[ ]		[ ]
REPAIR WELL	[ ]		[ ]
PULL OR ALTER CASING	[ ]		[ ]
MULTIPLE COMPLETE	[ ]		[ ]
CHANGE ZONES	[ ]		[ ]
ABANDON*	[ ]		[ ]
(other) Stimulate present Lower Gallup perfs and additionally complete Upper Gallup Sand			

RECEIVED
DEC 10 1982
U. S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

U.S. GEOLOGICAL SURVEY
OIL AND GAS OPERATIONS
RECEIVED
NOV 23 1982
GRAND JUNCTION

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

ARCO Oil and Gas Co. desires to re-perforate and acidize the Lower Gallup perforations in the subject well; and attempt additional completion by perforating and fracing the Upper Gallup Sand.

Attached is the planned Workover Procedure and a GR-Compensated Formation Density Log, showing the proposed re-perforations in the Lower Gallup and the proposed perforations in the Upper Gallup Sand.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED S. C. Rose TITLE Dist.Prod.Supt. DATE November 19, 1982

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

APPROVED
DEC 1 1982
JAMES F. SIMS
DISTRICT ENGINEER

*See Instructions on Reverse Side

NMOCC

Workover Procedure:

1. MIRU. Pull rods, pump, and tbg. Note if any scale is present. Clean out hole to PBTD w/casing scraper.

2. RIH w/csg perforating gun and perf opposite Lower Gallup f/1220-42 w/2 JET SPF (44 shots). Use premium quality deep penetrating charges.

3. Mix 1 drum S-271 scale inhibitor with 40 bbls of water and displace into perfs 1208-42 w/125 bbls of water.

4. Set retrievable bridge plug @ ± 1170' w/wireline. Pressure test plug and csg to 2000 psi.

5. RIH w/csg perforating gun and perf opposite Upper Gallup f/1110-38 w/2 0.5" JET SPF (56 shots).

6. RIH w/tbg and spot 500 gal 15% HCl. Acid to contain surfactant. Pull tbg and rig up to frac down 5-1/2" csg.

7. Breakdown Upper Gallup formation with 1000-2000 gal pre-pad of slickwater establishing a rate of 20 BPM. Shut-down for 2 minutes to obtain ISIP.

8. Frac down 5-1/2" csg at 20 BPM at approximately 1000 psi using 8000 gallons low-residue cross-linked 20#/1000 gal gel and 21,200 pounds 10/20 sand. Frac fluid to contain 2% KCl, 2 gal/1000 gal non-emulsifier, and appropriate breakers.

Remarks:

a. Internal yield for 5-1/2" 14# J-55 csg is 4270 psig and capacity is 1.025 gal/ft.

b. Bacteriacide to be added to tank water at .25/100 gal prior to treatment.

c. Radioactive sand to be added starting with 1 ppg stage.

d. HHP= .0245x1000x20=490.

e. Service company to test fluid gelling and gel breaker agents prior to treatment.

Schedule

Gals	Bbls	Prop	Prop Conc	Prop wt.	Fluid
2,000	48	Pad	---	---	Low-Residue Cross Linked Gel
700	17	10/20	1 ppg	700#	"
800	19	10/20	2 ppg	1600#	"
900	21	10/20	3 ppg	2700#	"
1800	43	10/20	4 ppg	7200#	"
1800	43	10/20	5 ppg	9000#	"
1135	27	Flush	---	---	2% KCl Water
9135	218			21,200#	

9. Allow sufficient time for gel to break. Clean out sand to bridge plug.

10. Retrieve bridge plug. Run radioactive tracer log for after-frac survey.

11. Run pumping equipment, put well on test. (Upper and Lower Gallup commingled production). NOTE: Consider running entire new string of tbg, as well history shows several pulling jobs due to leaks.

Well Data:

Location: 1350' FSL, 1250' FEL, Section 32-31N-16W
San Juan County, New Mexico

Elevatoion: GL-5336' KB-5347'
Log Measured from KB

Casing: 5-1/2" 14# J-55 set @ 1303' KB, cemented w/260 sxneat.

Perfs: 1208-20' ELM (Lower Gallup)

Tubing:

1 Pump Barrel 2-1/2x2-1/4x12x16	16.29
39 Jts. 2-7/8" EUE 8rd 6.5 # J-55	1209.22
	1225.51
RKB to tbg head collar	8.50
	1234.01

TD: 1303'

PBTD: 1266'

HSGU #296
Induction Gamma Ray Log