



November 27, 1985

Arco Oil & Gas  
P.O. Box 147  
Bakersfield, CA 93302

Attention: Mr. Ben Davis

The enclosed Original and (3) copies show the results of our Magnetic Multishot Survey No. BD-MA-50051 performed on the Mist Field Well No. 22-27, Columbia County, Oregon on November 22, 1985. This survey was run from 418 ft. to 2532 ft.

One of these folders contains the original of the computation sheet, field data sheet, film and horizontal projection.

Thank you for giving us this opportunity to be of service.

Yours very truly,

NL SPERRY-SUN, INC.

*Jack Van Etten*

Jack Van Etten  
District Manager

cjs  
Enclosures

NL Sperry-Sun/NL Industries, Inc.

NL SPERRY-SUN INCORPORATED  
MAGNETIC MULTISHOT DIRECTIONAL

PAGE 1

ARCO OIL & GAS COMPANY  
WELL NO. 22-27

BK-MA-50051  
NOVEMBER 26, 1985

TOTAL DEPTH	DIRECTION DEG MIN	ANGLE DEG MIN	VERTICAL DEPTH	LATITUDE FEET	DEPARTURE FEET	VERTICAL SECTION	DOG LEG
418	TIE COORDINATES		417.99	2.69 N	0.40 E	0.16	0.00
462	N 66	0 E 0 45	461.98	3.02 N	0.99 E	-0.72	0.65
493	N 63	0 E 0 45	492.98	3.19 N	1.35 E	-1.07	0.13
586	N 77	0 W 4 15	585.91	4.24 N	1.48 W	1.83	5.21
679	N 69	0 W 8 45	678.29	7.55 N	11.44 W	12.05	4.92
772	N 72	0 W 12 45	769.63	13.26 N	27.81 W	28.85	4.34
865	N 89	0 W 11 30	860.59	16.60 N	46.85 W	48.11	4.05
958	N 89	0 W 11 30	951.72	16.92 N	65.39 W	66.60	0.00
1051	N 89	0 W 11 15	1042.89	17.24 N	83.73 W	84.90	0.27
1144	N 89	0 W 10 45	1134.18	17.55 N	101.47 W	102.60	0.54
1237	S 89	0 W 10 30	1225.59	17.55 N	118.61 W	119.68	0.48
1330	S 89	0 W 10 15	1317.07	17.26 N	135.36 W	136.34	0.27
1423	S 88	0 W 10 0	1408.62	16.84 N	151.70 W	152.58	0.33
1516	S 88	0 W 10 0	1500.21	16.27 N	167.84 W	168.61	0.00
1609	S 89	0 W 10 0	1591.79	15.85 N	183.99 W	184.66	0.19
1702	S 87	0 W 9 30	1683.45	15.31 N	199.72 W	200.29	0.65
1795	S 87	0 W 9 15	1775.21	14.51 N	214.85 W	215.29	0.27
1888	S 87	0 W 9 0	1867.03	13.74 N	229.58 W	229.89	0.27
1981	S 87	0 W 9 0	1958.89	12.98 N	244.11 W	244.30	0.00
2074	S 87	0 W 8 45	2050.77	12.23 N	258.44 W	258.51	0.27
2167	S 87	0 W 8 45	2142.69	11.49 N	272.56 W	272.52	0.00
2260	S 87	0 W 8 30	2234.64	10.76 N	286.49 W	286.33	0.27
2353	S 87	0 W 8 15	2326.65	10.05 N	300.02 W	299.74	0.27
2446	S 86	0 W 8 0	2418.71	9.25 N	313.14 W	312.74	0.31
2477	S 86	0 W 8 0	2449.41	8.95 N	317.44 W	317.00	0.00
2517	S 87	0 W 8 0	2489.02	8.61 N	323.00 W	322.51	0.35
2532	S 87	0 W 8 0	2503.87	8.50 N	325.08 W	324.58	0.00

THE DOGLEG SEVERITY IS IN DEGREES PER ONE HUNDRED FEET.  
THE VERTICAL SECTION WAS COMPUTED ALONG N 85 0 W  
A DECLINATION OF 21 0 EAST HAS BEEN APPLIED.

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS, THE BOTTOM HOLE  
DISPLACEMENT IS 325.18 FEET, IN THE DIRECTION OF N 88 30 W  
BOTTOM HOLE DISPLACEMENT IS RELATIVE TO WELLHEAD.  
VERTICAL SECTION IS RELATIVE TO WELLHEAD.

SURVEYED BY STEVE PRUETT