



Survey Report

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INTEQ

MIN. CURVATURE CALCULATIONS (SPE-3382)

OPERATOR: D.H.Arrington Oil & Gas
WELL: John's Hopper #1
LOCATION: Lea County, New Mexico

START: 9/28/01
FINISH:
JOB #: 211075

PROPOSED DIRECTION: 95.49
MAGNETIC TO GRID: 7.67

STATION NUMBER	SURVEY DEPTH	INC	TRUE AZM	TVD	N-S	E-W	VERT. SECTION	DLS/ 100
45	11673	16.1	97.0	11613.4	-43.9	583.2	584.8	0.6
46	11737	16.7	93.1	11674.8	-45.4	601.2	602.8	2.0
47	11798	16.6	93.4	11733.2	-46.4	618.7	620.3	0.2
48	11861	16.4	94.1	11793.6	-47.6	636.5	638.2	0.4
49	11924	16.1	93.4	11854.1	-48.7	654.1	655.8	0.6
50	11986	14.9	95.2	11913.8	-50.0	670.6	672.4	2.1
51	12050	14.0	96.3	11975.8	-51.6	686.5	688.3	1.5
52	12113	13.2	96.6	12037.0	-53.2	701.3	703.1	1.3
53	12176	13.4	95.2	12098.4	-54.7	715.7	717.6	0.6
54	12239	14.2	94.1	12159.5	-55.9	730.6	732.6	1.3
55	12301	14.2	95.6	12219.6	-57.2	745.8	747.9	0.6
56	12372	12.7	97.0	12288.7	-59.0	762.2	764.4	2.2
57	12434	12.9	97.0	12349.2	-60.7	775.8	778.1	0.3
58	12498	12.8	95.6	12411.6	-62.3	790.0	792.3	0.5
59	12553	13.2	95.6	12465.1	-63.5	802.3	804.7	0.7
60	12616	15.4	93.4	12526.2	-64.7	817.8	820.3	3.6
61	12680	14.9	93.4	12588.0	-65.7	834.5	837.0	0.8
62	12742	16.6	93.4	12647.6	-66.7	851.3	853.8	2.7
63	12805	17.0	93.1	12707.9	-67.7	869.5	872.0	0.6
64	12868	16.7	93.4	12768.2	-68.7	887.7	890.2	0.5
65	12930	16.8	94.5	12827.6	-70.0	905.6	908.1	0.5
66	12991	17.2	93.1	12885.9	-71.1	923.3	925.9	0.9

BHI DIRECTIONAL DRILLER: NICK FREDRICK

