

## GRUM JOINT VENTURE U/G.D.D.H. COORDINATES (C.M.E.)

019146

SHEET # /

DDH. #	START	FINISH	LENGTH(m)	NORTHING	EASTING	ELEV.	AZIMUTH	DIP	REMARKS
U-1 ✓	1/12/75	3/12/75	62.5	10,778.51	7,691.73	1152.57	<del>140°12'11"</del>	+03°01'	Az = 110°08'
U-2 ✓	4/12/75	5/12/75	50.3	10,779.73	7,691.54	1152.66	56°20'02"	+03°	DIP = +3°12'
U-3 ✓	6/12/75	10/12/75	82.3	10,777.12	7,628.66	1155.32	275°03'23"	+35°	DIP = +36°59'
U-4 ✓	10/12/75	17/12/75	53.3	10,720.19	7,631.53	1155.62	<del>235°34'10"</del>	+15°	DIP = +72°04' Az = 235°47'
U-5 ✓	12/12/75	16/12/75	99.1	10,720.45	7,632.27	1151.62	Vert.	-90°	" "
U-6 ✓	17/12/75	19/12/75	36.6	10,719.91	7,632.55	1155.60	15°00'00"	+80°	DIP = +81°40'
U-7 ✓	19/12/75	22/12/75	73.2	10,726.70 *	7,652.80 *	1151.80 *	11° *	-60°	" "
U-8 ✓	22/12/75	26/12/75	50.3	10,726.71	7,652.78	1155.87	218°24'35"	+80°	DIP = +75°34'
U-9 ✓	28/12/75	30/12/75	64.0	10,765.60 *	7,671.80 *	1152.0 *	11° *	-55°	" "
U-10 ✓	31/12/75	2/1/76	64.0	10,765.58	7,671.82	1155.915	<del>233°47'07"</del>	+80°	DIP = +79°34' Az = 233°38'
U-11 ✓	2/1/76	2/1/76	22.4	10,781.47	7,692.46	1153.72	76°10'20"	+6°	DIP = -41°23'
U-12 ✓	5/1/76	6/1/76	79.9	10,685.91	7,600.50	1152.91	13°47'59"	-70°	Collar only (dip & az. approx)
U-13 ✓	7/1/76	10/1/76	182.9	10,685.48	7,600.08	1152.91	13°47'59"	-83°	Collar only (dip & az. approx)
U-14 ✓	11/1/76	12/1/76	51.8	10,684.80	7,602.59	1157.71	233°26'21"	+82°	DIP = +59°09'
U-15 ✓	12/1/76	16/1/76	185.0	10,702.13	7,531.32	1166.19	11° *	-60°	Collar only (dip & az. approx)
U-16 ✓	16/1/76	21/1/76	106.7	10,727.09	7,639.76	1151.80	15°58'50"	+86°	DIP = -35°15'
U-17 ✓	22/1/76	22/1/76	125.0	10,727.20	7,639.60	1151.80	13°48'00"	-60°	no survey found (collar approx?)
U-18 ✓	22/1/76	22/1/76	88.4	10,686.00 *	7,600.50 *	1153.0 *	11° *	-16°	" "
U-19 ✓	22/1/76	25/1/76	59.2	10,682.01	7,598.675	1155.27	223°48'00"	+51°	no survey found (collar approx?)
U-20 ✓	25/1/76	26/1/76	74.7	10,685.03	7,599.62	1152.98	223°48'00"	-80°	Collar only (dip & az. approx)
U-21 ✓	27/1/76	2/2/76	76.2	10,716.85	7,628.66	1155.62	227°00'49"	+55°	DIP = +48°34'
U-22 ✓	29/1/76	30/1/76	99.1	10,720.18	7,631.995	1151.708	227°00'00"	-87°	Collar only (dip & az. approx)
U-23 ✓	31/1/76	31/1/76	70.1	10,720.80	7,632.885	1151.704	17°00'00"	-68°	Collar only (dip & az. approx)
U-24 ✓	2/2/76	3/2/76	59.4	10,726.67	7,640.22	1155.16	17°22'03"	+34°	DIP = 34°31'
U-25 ✓	5/2/76	7/2/76	112.3	"	"	"	"	+34°	Repeat of U-24
U-26 ✓	8/2/76	9/2/76	76.2	10,777.19	7,689.09	1166.85	235°18'48"	+69°00'	" "
U-27 ✓	13/2/76	15/2/76	106.1	10,781.03	7,693.72	1157.59	48°25'09"	+12°	DIP = 61°54'
U-28 ✓	16/2/76	17/2/76	64.0	10,708.75	7,538.75	1166.52	<del>80°46'12"</del>	+21°	DIP = -39°13' Az = 48°42'
U-29 ✓	17/2/76	18/2/76	68.6	10,709.13	7,538.50	1167.26	46°14'03"	-13°51'	" "
U-30 ✓	18/2/76	19/2/76	36.6	10,709.02	7,538.30	1169.60	87°50'30"	+13°22'	" "
U-31 ✓	19/2/76	20/2/76	61.0	10,702.96	7,535.11	1166.86	92°25'49"	-15°45'	74W BL+20
U-32 ✓	20/2/76	23/2/76	121.9	10,703.10	7,532.66	1166.37	222°33'27"	-72°51'	74W BL+10
U-33 ✓	23/2/76	24/2/76	21.9	10,700.57	7,530.22	1169.21	222°00'00"	+45°	Collar only (dip & az. approx)
U-34 ✓	24/2/76	28/2/76	126.5	10,767.506	7,589.079	1122.611	<del>153°29'11"</del>	-81°18'	Az = 153°11'
U-35 ✓	1/3/76	4/3/76	127.8	10,768.015	7,589.107	1121.639	<del>153°29'11"</del>	-81°18'	Az = 057°33'
<del>U-36</del>	<del>5/3/76</del>	<del>5/3/76</del>	<del>12.8</del>	<del>10,621.915</del>	<del>7,620.22</del>	<del>1127.29</del>	<del>126°36'21"</del>	<del>+7°11'</del>	recalc DJH see sheet 7

A location Approx. Not Accurately Surveyed.

GRUM JOINT VENTURE U./G.D.D.H. COORDINATES (C.M.E.)

DDH #	START	FINISH	LENGTH	NORTHING	EASTING	ELEV.	AZIMUTH	DIP	REMARKS
<del>U-37</del>	<del>5/3/76</del>	<del>8/3/76</del>	<del>53.3</del>	<del>10,633.222</del>	<del>7,681.659</del>	<del>1167.782</del>	<del>23°23'23"</del>	<del>+99'</del>	re calc DJH see sheet 7
<del>U-38</del>	<del>8/3/76</del>	<del>9/3/76</del>	<del>85.3</del>	<del>10,632.549</del>	<del>7,681.315</del>	<del>1167.879</del>	<del>102°10'31"</del>	<del>+9°42'</del>	re calc DJH " " "
U-39 ✓	9/3/76	10/3/76	110.3	10,767.245	7,588.402	1144.623	230°28'11"	-73°15'	74W 3N
U-40 ✓	10/3/76	12/3/76	109.8	10,767.051	7,588.308	1144.571	225°20'25"	<del>-53°50'</del>	DIP = -53°48' 74W 3N
U-41 ✓	12/3/76	14/3/76	91.5	10,769.061	7,590.661	1144.633	21°25'21"	-16°19'	74W 3N
U-42 ✓	15/3/76	16/3/76	53.3	10,767.689	7,590.105	1148.636	45°29'33"	+15°18'	74W 3N
U-43 ✓	16/3/76	17/3/76	45.7	10,767.235	7,589.511	1148.752	206°33'58"	+59°15'	74W 3N
U-44 ✓	17/3/76	17/3/76	45.7	10,767.196	7,587.310	1148.788	235°57'00"	+60°46'	74W 3N
U-45 ✓	18/3/76	19/3/76	62.5	10,831 ★	7647 ★	1143.25 ★	44° ★	-80	COLLAR Lost. 74W 6N
U-46 ✓	19/3/76	19/3/76	83.8	10,831 ★	7647 ★	1143.25 ★	44° ★	-80	DIP = -50° 74W 6N
U-47 ✓	21/3/76	22/3/76	80.8	10,831 ★	7647 ★	1143.25 ★	224° ★	-48	DIP = -80° 74W 6N
U-48 ✓	22/3/76	23/3/76	120.7	10,826.650	7,645.320	1143.336	218°35'53"	<del>-55°50'</del>	DIP = -55°34' 74W 6N
U-49 ✓	24/3/76	25/3/76	82.3	10,825.927	7,643.088	1144.542	222°59'01"	+0°50'	74W 6N
U-50 ✓	25/3/76	26/3/76	91.4	10,825.601	7,643.895	1144.519	189°02'53"	+00°37'	74W 6N
U-51 ✓	26/3/76	27/3/76	70.1	10,826 ★	7,643 ★	1146 ★	224 ★	+48	COLLAR Lost. 74W 6N
U-52 ✓	27/3/76	28/3/76	57.9	10,826.800	7,643.186	1147.300	229°23'55"	+65°13'	74W 6N
U-53 ✓	28/3/76	28/3/76	60.9	10,827.039	7,643.677	1147.516	<del>225°21'23"</del>	+83°	DIP = +82°56' AZ = 255°01' 74W 6N
U-54 ✓	29/3/76	2/4/76	150.9	10,829.438	7,645.418	1148.115	33°12'15"	+60°	DIP = +59°50' 74W 6N
U-55 ✓	2/4/76	3/4/76	36.4	10,826.027	7,643.137	1145.060	233°40'23"	+87°	DIP = +27°04' 74W 6N
U-56 ✓	3/4/76	3/4/76	61.0	10,825.996	7,643.189	1146.126	223°21'55"	+88°	DIP = +28°02' 74W 6N
U-57 ✓	3/4/76	4/4/76	53.3	10,825.897	7,643.083	1143.826	220°16'53"	+88°	DIP = -28°12' 74W 6N
U-58 ✓	5/4/76	6/4/76	106.6	10,797.872	7,534.521	1136.292	222°21'31"	+1°16'	76W 3N
U-59 ✓	7/4/76	9/4/76	127.2	10,798.160	7,534.893	1135.444	227°06'12"	+5°46'	76W 3N
U-60 ✓	10/4/76	11/4/76	122.0	10,799.368	7,535.886	1134.969	-	-90°	COLLAR ONLY 76W 3N
U-61 ✓	11/4/76	13/4/76	120.3	10,799.082	7,535.677	1135.001	224° 25	-80	COLLAR ONLY DIP = -70° 76W 3N
U-62 ✓	14/4/76	15/4/76	109.7	10,798.093	7,534.797	1135.596	222°17'28"	-21°	DIP = -20°58' 76W 3N
U-63 ✓	15/4/76	17/4/76	106.6	10,798.012	7,534.767	1137.448	222°14'29"	<del>+87°50'</del>	DIP = +32°29' 76W 3N
U-64 ✓	17/4/76	18/4/76	57.9	10,799.507	7,537.073	1138.882	221°23'49"	<del>+85°50'</del>	DIP = +63°49' 76W 3N
U-65 ✓	18/4/76	19/4/76	59.4	10,799.528	7,535.976	1139.029	339°16'28"	<del>+85°11'</del>	DIP = +88° 11' 76W 3N
U-66 ✓	19/4/76	20/4/76	99.0	10,797.703	7,536.365	1136.900	176°26'01"	+83°	DIP = +22°55' 76W 3N
U-67 ✓	20/4/76	22/4/76	76.2	10,817.152	7,495.677	1146.585	225°28'11"	+11°	DIP = +0°53' 78W 3N
U-68 ✓	26/4/76	27/4/76	53.3	10,841.812	7,493.520	1127.786	223°21'21"	+82°	DIP = +32°55' 78W 3N
U-69 ✓	27/4/76	27/4/76	38.1	10,843.024	7,491.453	1130.213	<del>226°52'11"</del>	+60°	DIP = +60°08' AZ = 226°52' 78W 3N
U-70 ✓	28/4/76	28/4/76	39.6	10,844.052	7,495.379	1130.004	18°08'10"	<del>+85°48'</del>	DIP = +85°48' 78W 3N
U-71 ✓	28/4/76	29/4/76	45.7	10,944.371	7,495.545	1129.904	21°39'23"	+65°00'	78W 3N
U-72	29/4/76	2/5/76		10,842.738	7,494.992	1124.623	224°09'42"	-6°15'	AZ = 224°13' 78W 3N

GRUM JOINT VENTURE U/G.D.D.H. COORDINATES (C.M.E)

SHEET # 5

DDH. #	START	FINISH	LENGTH	NORTHING	EASTING	ELEV.	AZIMUTH	DIP	REMARKS
U-73 ✓	08/05/76	03/05/76	121.9	10,841.072	7,292.756	1126.003	196°17'12"	11°16'	78W 3N
<del>U-74</del>	<del>08/05/76</del>	<del>06/05/76</del>	<del>107.9</del>	<del>10,602.785</del>	<del>7,797.380</del>	<del>1171.923</del>	<del>147°25'00"</del>	<del>18°30'</del>	recalc. DJH see sheet 7
U-75 ✓	08/05/76	07/05/76	170.7	10,843.272	7,295.270	1121.589	39°16'18"	15°25'	78W 2+22.5N
<del>U-76</del>	<del>07/05/76</del>	<del>18/05/76</del>	<del>65.5</del>	<del>10,602.158</del>	<del>7,731.638</del>	<del>1175.022</del>	<del>149°08'00"</del>	<del>15°20'</del>	recalc DJH see sheet 7
<del>U-77</del>	<del>09/05/76</del>	<del>15/05/76</del>	<del>167.6</del>	<del>10,841.151</del>	<del>7,296.312</del>	<del>1121.893</del>	<del>221°11'32"</del>	<del>15°31'</del>	← down hole. : az wrong too! DJH.
<del>U-78</del>	<del>08/5/76</del>	<del>09/5/76</del>	<del>106.7</del>	<del>10,603.298</del>	<del>7,737.983</del>	<del>1175.072</del>	<del>133°37'00"</del>	<del>18°30'</del>	recalc DJH. see sheet 7
U-79 ✓	15/5/76	16/5/76	97.5	10,841.867	7,292.408	1125.110	218°23'55"	29°31'	78W 3N
U-80 ✓	16/5/76	11/5/76	76.2	10,776.532	7,687.983	1152.198	152°50'32"	110°05'	67W 2N
U-81 ✓	18/05/76	18/05/76	38.1	10,835.042	7,570.330	1137.789	—	-90°	76W 76XC
U-82 ✓	12/05/76	12/05/76	45.7	10,776.094	7,686.962	1152.668	<del>186°51'00"</del>	19°38'	72W 5N+5M AZ = 186°06'
U-83 ✓	18/05/76	20/05/76	38.1	10,835.133	7,570.732	1122.061	—	190°	76W 76XC
U-84 ✓	13/05/76	12/05/76	76.2	10,780.539	7,687.527	1153.227	29°27'00"	155°05'	72W 5N+18m
U-85 ✓	20/05/76	21/05/76	21.1	10,832.121	7,570.116	1122.226	227°02'12"	145°1'	76W 76XC
U-86 ✓	15/5/76	16/5/76	92.5	10,782.362	7,693.250	1153.992	21°12'27"	131°12'	72W 5N+23m
U-87 ✓	23/5/76	21/5/76	61.0	10,833.250	7,568.312	1137.839	223°21'15"	153°02'	76W 76XC
U-88 ✓	17/5/76	17/5/76	65.5	10,750.251	7,733.161	1156.053	—	-90°	70W/6N (Collar Only) HOLE STOPPED DUE TO WATER + SAND.
U-89 ✓	22/5/76	25/5/76	38.1	10,820.700	7,559.000	1121.517	201°23'27"	152°18'	76W/3N + 22.5m NE.
U-90 ✓	18/5/76	21/5/76	119.7 <sup>90</sup>	10,752.877	7,733.263	1155.992	38°55'39"	<del>11°25'</del>	70W/6N DIP = -61°53'
U-91 ✓	25/5/76	27/5/76	97.5	10,926.783	7,571.588	<del>1122.819</del>	230°21'59"	18°26'	76W/6N EI = 1125.29
U-92 ✓	22/05/76	23/5/76	72.2	10,749.282	7,730.366	1157.059	221°32'52"	0°31'	70W/6N DIP = +0°04'
U-93 ✓	27/5/76	30/5/76	76.2	10,925.528	7,572.886	<del>1126.409</del>	275°12'23"	130°32'	78W/7N EI = 1126.88
U-94 ✓	23/5/76	22/5/76	26.2	10,968.127	7,578.316	1099.785	321°18'57"	15°	TEST HOLE FOR 3N/W DECLINE DIP = <del>15</del> +33°
U-95 ✓	31/5/76	2/6/76	121.9	10,926.295	7,572.533	<del>1122.080</del>	222°52'52"	19°32'	78W/7N EI = 1124.55
U-96 ✓	21/5/76	26/5/76	131.9	10,749.520	7,730.762	1158.026	273°17'15"	119°21'	70W/6N
U-97 ✓	3/6/76	3/6/76	62.5	10,926.180	7,572.655	<del>1122.215</del>	219°02'20"	131°	78W/7N EI = 1124.69
U-98 ✓	26/5/76	29/5/76	83.8	10,749.231	7,731.637	1156.092	215°59'12"	146°12'	70W/6N
<del>U-99</del>	<del>6/06/76</del>	<del>15/06/76</del>	<del>102.9</del>	<del>10,935.223</del>	<del>7,583.229</del>	<del>1123.951</del>	<del>217°15'12"</del>	<del>10°11'</del>	78W/7N EI = 1124.43 Dip = -60°20'
U-100 ✓	29/5/76	3/06/76	121.9	10,748.819	7,731.197	1159.022	222°29'25"	125°07'	70W/6N DIP = +35°06'
U-101 ✓	15/06/76	21/06/76	175.3 *	10,936.5 *	7,583.5 *	1123.9 *	44° *	(-85°)	Collar lost 78W/7N
U-102 ✓	3/06/76	2/06/76	21.2	10,749.721	7,731.795	1160.637	222°20'22"	165°27'	70W/6N
U-103 ✓	21/06/76	22/06/76	129.5	10,936.320	7,583.122	<del>1122.929</del>	22°19'10"	16°12'	78W/3N EI = 1124.40
U-104 ✓	2/06/76	2/06/76	31.2	10,751.375	7,732.202	1160.576	13°18'55"	153°51'	70W/6N DIP = +63°32'
<del>U-105</del>	<del>27/06/76</del>	<del>27/06/76</del>	<del>38.1</del>	<del>10,938 *</del>	<del>7,581.5 *</del>	<del>1125 *</del>	<del>44° *</del>	<del>0° *</del>	Collar lost 78W 7N See sheet 7
U-106 ✓	5/06/76	9/06/76	137.3	10,752.192	7,732.280	1157.253	44° *	0° *	Collar Only 70W 6N
U-107 ✓	30/06/76	25/07/76	70.1	10,936.5 *	7,583.5 *	1127.6 *	—	190	Collar lost 78W 7N
U-108 ✓	10/06/76	12/06/76	76.2	10,751.562	7,732.922	1156.252	11°31'32"	130°51'	70W 6N

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SHEET # 1

DDH. #	START	FINISH	LENGTH	NORTHING	EASTING	ELEV.	AZIMUTH	DIP	REMARKS
26-109	5/07/76	11/07/76	116.7	10,936.752	7,585.229	<del>1127.587</del>	38°13'51"	<del>153°10'</del>	EI = 1128.061 DIP = +53°41'78 W 7N
26-110	12/06/76	13/06/76	90.8	10,891.584	7,627.339	1132.983	-	-90°	COLLAR ONLY 76W 7N
26-111	6/07/76	7/06/76	122.3	10,749.23	7,731.63	1156.10	0	-90°	CANNOT FIND COLLAR 70W 6N
26-112	14/06/76	18/06/76	15.7	10,893.518	7,626.301	1132.960	220°17'28"	<del>57°12'</del>	DIP = -59°26' 76W 7N
26-113	12/07/76	17/07/76	102.7	10,751.02	7,733.97	1156.562	044°	-58°	CANNOT FIND COLLAR Collar only. 70W 6N
26-114	14/06/76	15/06/76	15.7	10,891.951	7,625.063	1132.221	222°08'30"	0°	DIP = +0°31' 76W 7N
26-115	18/07/76	19/07/76	74.0	10,789.316	7,732.815	1155.983	226°02'30"	65°20'	70W 6N
26-116	15/06/76	16/06/76	68.6	10,891.825	7,625.101	1132.160	225°03'33"	41°51'	76W 7N
<del>26-117</del>	<del>16/07/76</del>	<del>16/07/76</del>	<del>61.0</del>	<del>10,937.120</del>	<del>7,585.372</del>	<del>1125.217</del>	<del>13°16'18"</del>	<del>0°41'</del>	el ≈ 1143.7 DJH see sheet 7 74W 7N
26-118	17/06/76	19/06/76	76.2	10,892.665	7,626.185	1138.160	228°21'17"	<del>41°21'</del>	DIP = 74°31' 76W 7N
<del>26-119</del>	<del>19/07/76</del>	<del>19/07/76</del>	<del>103.6</del>	<del>10,658 *</del>	<del>7,653 *</del>	<del>1160.6 *</del>	<del>0</del>	<del>90°</del>	COLLAR LOST See sheet 7 70W 2N
26-120	19/06/76	20/06/76	61.0	10,895.715	7,628.307	1132.219	10°01'18"	0	DIP = -0°12' 76W 7N
<del>26-121</del>	<del>20/07/76</del>	<del>21/07/76</del>	<del>65.5</del>	<del>10,657 *</del>	<del>7,652 *</del>	<del>1160.6 *</del>	<del>224° *</del>	<del>-60</del>	COLLAR LOST See sheet 7 70W 2N
26-122	21/06/76	22/06/76	91.1	10,895.70	7,628.30	1133.00	044°	-55°	CANNOT FIND COLLAR 76W 7N
<del>26-123</del>	<del>21/07/76</del>	<del>24/07/76</del>	<del>118.9</del>	<del>10,659.362</del>	<del>7,653.839</del>	<del>1160.610</del>	<del>44° *</del>	<del>45° *</del>	COLLAR ONLY Recalc DJH see p.7 70W 2N
26-124	22/06/76	23/06/76	91.1	10,863.5 *	7,597.7 *	1138.028	-	-90°	COLLAR LOST 76W 76XC
26-125	21/07/76	29/07/76	92.3	10,788.611	7,731.638	1156.649	227°38'13"	30°06'	70W 6N
26-126	28/06/76	2/07/76	168.8	10,862.5 *	7,597.0 *	1138.028	224° *	-60°	COLLAR LOST. 76W 76XC
<del>26-127</del>	<del>21/07/76</del>	<del>25/07/76</del>	<del>15.7</del>	<del>10,659.572</del>	<del>7,652.121</del>	<del>1161.822</del>	<del>13°51'58"</del>	<del>118°29'</del>	Recalc. DJH see sheet 7 70W 2N
26-128	2/07/76	3/07/76	83.8	10,863.3 *	7,598.0 *	1138.0 *	44° *	-60°	COLLAR LOST. 76W 5+20N
26-129	28/07/76	28/07/76	112.3	10,850.0 *	7,582.8 *	1137.6 *	224° *	-55°	" " 76W 5N
26-130	3/07/76	8/07/76	15.7	10,862.880	7,597.281	1122.716	250°47'16"	+28°10'	76W 76XC
<del>26-131</del>	<del>26/07/76</del>	<del>28/07/76</del>	<del>126.5</del>	<del>10,656.422</del>	<del>7,651.118</del>	<del>1161.752</del>	<del>223°28'15"</del>	<del>0°35'</del>	Recalc. DJH see sheet 7 70W 2N
26-132	6/07/76	11/07/76	132.5	10,895.40	7,628.70	1138.00	044°	+63°	CANNOT FIND COLLAR 76W 7N
<del>26-133</del>	<del>26/07/76</del>	<del>28/07/76</del>	<del>126.5</del>	<del>10,659.046</del>	<del>7,653.567</del>	<del>1160.565</del>	<del>44° *</del>	<del>-60° *</del>	COLLAR ONLY Recalc DJH p.7 70W 2N
26-134	13/07/76	17/07/76	99.1	10,808.130	7,511.102	1132.118	22°13'33"	-78°08'	76W 3N
26-135	27/07/76	4/08/76	190.5	10,978.338	7,510.513	<del>1110.875</del>	44° *	-85° *	COLLAR ONLY EI = 1114.00 80W 7N
<del>26-136</del>	<del>29/07/76</del>	<del>30/07/76</del>	<del>76.2</del>	<del>10,657.164</del>	<del>7,651.876</del>	<del>1162.122</del>	<del>224° *</del>	<del>140° *</del>	COLLAR ONLY Recalc. DJH p.7 70W 2N
<del>26-137</del>	<del>29/07/76</del>	<del>1/08/76</del>	<del>61.0</del>	<del>10,659.937</del>	<del>7,656.458</del>	<del>1152.001</del>	<del>22°01'15"</del>	<del>168° *</del>	Recalc DJH see sheet 7 70W 2N
26-138	29/07/76	6/08/76	122.2	10,808.025	7,511.558	1133.906	17°15'16"	-18°51'	76W 3N
<del>26-139</del>	<del>1/08/76</del>	<del>2/08/76</del>	<del>76.2</del>	<del>10,658 *</del>	<del>7,653 *</del>	<del>1164 *</del>	<del>224° *</del>	<del>115° *</del>	COLLAR LOST see sheet 7 70W 2N
26-140	5/08/76	16/08/76	123.4	10,978.181	7,510.686	<del>1110.964</del>	50°09'12"	-58°25'	EI = 1114.02 80W 7N
<del>26-141</del>	<del>9/08/76</del>	<del>11/08/76</del>	<del>152.4</del>	<del>10,581.782</del>	<del>7,717.787</del>	<del>1128.524</del>	<del>222°52'50"</del>	<del>10°19'</del>	Recalc DJH see sheet 7 66W 2N
26-142	9/08/76	11/08/76	152.4	10,976.117	7,528.102	<del>1111.825</del>	223°08'21"	29°35'	EI = 1114.34 80W 7N
<del>26-143</del>	<del>9/08/76</del>	<del>12/08/76</del>	<del>132.6</del>	<del>10,585.162</del>	<del>7,751.122</del>	<del>1177.524</del>	<del>44° *</del>	<del>75° *</del>	COLLAR ONLY Recalc DJH p.7 66W 2N
26-144	12/08/76	13/08/76	73.2	10,978.671	7,521.299	<del>1112.222</del>	<del>15°21'31"</del>	<del>101°42'</del>	EI = 1117.47 DIP = +50°11' 80W 7N AZ = 45°05'57"

## GRUM JOINT VENTURE U./G.D.D.H. COORDINATES (C.M.F.)

SHEET # 5

DD.H. #	START	FINISH	LENGTH	NORTHING	EASTING	ELEV.	AZIMUTH	DIP	REMARKS
U-145 ✓	13/08/76	15/08/76	121.9	10,580.50	7746.50	1178.50	44° *	-65° *	COLLAR BURIED
* U-146 ✓	13/08/76	15/08/76	73.7	10,977.386	7,539.85A	<del>115.507</del>	<del>224° 21' 21"</del>	<del>188° 23'</del>	EI = 1118.73 Az = 224°
<del>U-147</del>	<del>15/08/76</del>	<del>18/08/76</del>	<del>76.2</del>	<del>10,582.11A</del>	<del>7,718.35B</del>	<del>1180.899</del>	<del>227° 02' 28"</del>	<del>145° 59'</del>	recalc DJH see sheet 7
U-148 ✓	16/08/76	17/08/76	68.6	10,848.985	7,500.08A	1124.87A	21° 21' 05"	<del>36° 27'</del>	DIP = -36° 27'
U-149 ✓	18/08/76	20/08/76	182.9	10,939.533 *	7,502.629 *	1116.928	φ	-90°	Collar only
U-150 ✓	18/08/76	21/08/76	152.4	10,880.898	7,445.206	<del>112.572</del>	218° 15' 16"	<del>72° 29'</del>	EI = 1115.59 DIP = -73° 30'
U-151 ✓	21/08/76	22/08/76	76.2	10,879.287	7,423.319	<del>112.741</del>	224° *	+43°	COLLAR ONLY EI = 1118.77
U-152 ✓	23/08/76	24/08/76	61.0	10,939.202	7,502.377	1181.601	181° 20' 25"	181° 20'	
U-153 ✓	21/08/76	22/08/76	61.0	10,879.100	7,423.537	<del>112.726</del>	223° 22' 36"	17° 13'	EI = 1116.22
U-154 ✓	23/08/76	24/08/76	61.0	10,897.522	7,465.137	1119.956	200° 10' 12"	<del>187° 20'</del>	DIP = 82° 31'
U-155 ✓	24/08/76	25/08/76	61.0	10,578.00	7744.50	1177.4	224° *	-56° *	COLLAR BURIED
U-156 ✓	25/08/76	26/08/76	76.2	10,897.563 *	7,465.076 *	1116.254A	0	-90°	No survey.
U-157 ✓	25/08/76	27/08/76	132.6	10,578.55	7745.00	1177.4	—	-90°	COLLAR BURIED
U-158 ✓	26/08/76	27/08/76	74.3	10,930.919	7,409.542	1108.329	224° *	+45° *	COLLAR ONLY °° HOLE CAVED
<del>U-159</del>	<del>27/08/76</del>	<del>28/08/76</del>	<del>76.2</del>	<del>10,583.548</del>	<del>7,750.60A</del>	<del>1181.58A</del>	<del>224° 08' 48"</del>	<del>145° 53'</del>	Recalc DJH see sheet 7
U-160 ✓	27/08/76	28/08/76	73.2	10,930.319	7,409.153	1105.880	224° *	-15° *	COLLAR ONLY °° HOLE CAVED
<del>U-161</del>	<del>28/08/76</del>	<del>29/08/76</del>	<del>59.4</del>	<del>10,581.646</del>	<del>7,747.885</del>	<del>1177.88A</del>	<del>227° 51' 37"</del>	<del>31° 58'</del>	Recalc DJH see sheet 7
U-162 ✓	30/08/76	1/09/76	153.9	10,930.5 *	7,409.5 *	1105.0 *	224° *	-65° *	COLLAR BURIED
U-163 ✓	31/08/76	1/09/76	112.1	10,528.495	7,781.06A	1185.496	222° 07' 16"	-1° 01'	
U-164 ✓	2/09/76	2/09/76	50.0	10,931.55A	7,410.180	1109.773	224° *	+72° *	COLLAR ONLY °° HOLE CAVED
U-165 ✓	3/09/76	1/09/76	53.3	10,528.777	7,781.079	1184.896	226° 06' 32"	38° 36'	
U-166 ✓	3/09/76	5/09/76	182.9	11,020.25	7495.50	1105.50	0	-90°	CANNOT FIND COLLAR.
U-167 ✓	1/09/76	2/09/76	61.8	10,528.781	7,781.263	1187.513	<del>225° 21' 23"</del>	<del>142° 26'</del>	DIP = +42° 57' Az = 224° 26'
U-168 ✓	6/09/76	12/09/76	166.7	11,018.00A	7,495.327	1105.491	224° *	-60° *	COLLAR ONLY °° VALVE ATTACHED
U-169 ✓	2/09/76	2/09/76	45.7	10,884.353	7,821.415	1193.067	23° 58' 53"	<del>0° 16'</del>	DIP = -0° 13'
U-170 ✓	1/09/76	10/09/76	81.3	11,021.865	7,412.15A	1099.860	7° 35' 41"	<del>22° 29'</del>	DIP = -88° 35'
U-171 ✓	2/09/76	3/09/76	30.5	10,480.991	7,818.53A	1192.871	223° 00' 16"	10° 20'	
U-172 ✓	12/09/76	14/09/76	121.9	11,017.487	7,494.882	1105.882	224° *	-24° *	COLLAR ONLY °° HOLE CAVED
U-173 ✓	3/09/76	4/09/76	57.9	10,481.25	7818.80	1192.80	224°	-53°	CANNOT FIND COLLAR
U-174 ✓	14/09/76	15/09/76	28.0	11,020.50	7495.50	1109.30	0	+90°	CANNOT FIND COLLAR
U-175 ✓	4/09/76	4/09/76	53.3	10,484.045	7,821.377	1192.316	22° 27' 52"	35° 11'	
U-176 ✓	16/09/76	21/09/76	170.7	11,052.879 *	7,445.669 *	1100.718 *	224	-70°	COLLAR ONLY
U-177 ✓	5/09/76	5/09/76	65.5	10,483.952	7,821.132	1195.115	51° 41' 23"	<del>11° 21'</del>	DIP = +42° 23'
U-178 ✓	20/09/76	22/09/76	70.1	11,052.118	7,446.127	1104.896	56° 15' 08"	<del>117° 44'</del>	DIP = 76° 50'
U-179 ✓				10,482.083	7,819.075	1195.709	224° 55' 19"	159° 18'	DIP = +59° 19'
U-180 ✓	23/09/76	23/09/76	30.5	11,021.749	7,412.555	1104.036	332° 11' 27"	187° 21'	

# GRUM JOINT VENTURE U./G.D.D.H. COORDINATES (C.M.E.)

SHEET # 6

DD.H. #	START	FINISH	LENGTH	NORTHING	EASTING	ELEV.	AZIMUTH	DIP	REMARKS
U-181 ✓	6/09/76	7/09/76	68.6	10,622.808	7,709.950	1172.012	224°	+3°	COLLAR ONLY 68W 2N
U-182 ✓	24/09/76	27/09/76	153.6	10,981.225	7,350.241	1098.219	0	-90°	COLLAR ONLY 84W 3N+13.5m
U-183 ✓	7/09/76	8/09/76	76.2	10,622.856	7,703.857	1171.191	229°38'53"	-29°56'	68W 2N
U-184 ✓				10,978.603	7,377.922	1098.829	<del>032</del> 224°	-55°	COLLAR ONLY Approx. 84W 3N+13.5m
U-185 ✓	8/09/76	9/09/76	91.4	10,600.812	7,722.118	1175.361	222°11'24"	+1°36'	67W 2N
U-186 ✓				10,980.569	7,372.727	1103.110	228°15'39"	<del>+72°28'</del>	84W 3N
U-187 ✓	9/09/76	10/09/76	91.4	10,601.729	7,723.822	1172.781	222°19'25"	<del>-35°36'</del>	DIP = +72°28' 67W 2N
U-188 ✓				10,933.918	7,212.987	1106.323	23°06'09"	-0°23'	DIP = -35°36' 82W 3N
U-189 ✓	10/09/76	12/09/76	123.4	10,602.383	7,727.271	1172.787	21°28'31"	-23°21'	67W 2N
U-190 ✓				10,952.852	7,211.766	1105.250	044°	-70°	82W 3N
U-191 ✓	12/09/76	13/09/76	61.0	10,602.577	7,725.626	1178.890	256°25'26"	128°31'	67W 2N
U-192 ✓				10,786.017	7,565.862	1120.178	52°52'22"	<del>+18°23'</del>	DIP = -68°32' 75W 3N
U-193 ✓	14/09/76	14/09/76	76.2	10,633.588	7,671.352	1166.245	226°14'15"	+1°41'	69W 2N
U-194 ✓				10,785.410	7,565.128	1122°32'25"	1121.275	-55°27'	75W 3N
U-195 ✓	14/09/76	15/09/76	91.3	10,636.800	7,672.822	1166.359	28°57'36"	+1°41'	69W 2N
U-196 ✓				10,782.532	7,562.215	1120.180	216°21'51"	-63°39'	75W 3N
U-197 ✓	16/09/76	16/09/76	35.1	10,632.367	7,672.103	1168.856	233°21'26"	+26°17'	DIP = +40°16' 69W 2N
U-198 ✓				10,709.223	7,629.539	1172.820	032°	-57°	58 N°1
U-199 ✓	17/09/76	19/09/76	132.6	10,677.070	7,629.281	1156.972	228°18'33"	+0°45'	71W 2N
U-200 ✓	19/09/76	20/09/76	45.7	10,673.002	7,620.151	1158.228	22°12'35"	+0°23'	71W 2N
U-201 ✓	21/09/76	21/09/76	54.9	10,718.822	7,632.555	1152.835	163°41'48"	-0°30'	72W 4N
U-202 ✓	21/09/76	22/09/76	45.7	10,718.885	7,632.669	1152.827	122°26'52"	-0°23'	72W 4N
U-203 ✓	22/09/76	22/09/76	73.2	10,725.968	7,620.335	1152.766	81°30'57"	-0°45'	72W 4N
U-204 ✓	24/09/76	25/09/76	36.6	10,767.167	7,715.578	1152.795	0°	-90°	71W 6N
U-205 ✓	24/09/76	25/09/76	106.7	10,770.135	7,716.559	1155.512	21°21'29"	+1°17'	71W 6N
U-206 ✓	26/09/76	27/09/76	106.7	10,766.335	7,715.958	1159.629	161°54'25"	+87°16'	71W 6N
U-207 ✓				10,811.122	7,673.822	1150.128	29°01'22"	+0°00'	73W 6N
U-208 ✓				10,810.296	7,673.379	1129.328	62°02'57"	+6°10'	
U-209 ✓				10,810.126	7,672.290	1129.206	152°02'15"	<del>-89°0'</del>	DIP = -89°0'
U-210 ✓				10,809.000	7,671.168	1129.127	220°53'57"	-66°57'	DIP = -67°0'
U-211 ✓				10,722.716	7,608.095	1129.551	222°	-64°	
U-212 ✓				10,722.752	7,608.663	1129.522	58°03'19"	<del>-85°49'</del>	DIP = -85°49'
U-213 ✓				10,722.655	7,609.873	1129.495	46°00'48"	<del>-64°57'</del>	DIP = -64°57'
U-214 ✓				10,820.156	7,637.055	1139.159	50°22'22"	-1°39'	
U-215 ✓				10,859.157	7,635.728	1137.908	62°18'38"	65°11'	
U-216 ✓				10,858.761	7,632.339	1137.975	225°25'11"	-81°25'	

## GRUM JOINT VENTURE U/G.D.D.H. COORDINATES (C.M.E.)

SHEET # 7

DDH. #	START	FINISH	LENGTH	NORTHING	EASTING	ELEV.	K.A. grid.		REMARKS
							AZIMUTH	DIP	
U-217 ✓				10,107.979*	7,167.901*	1172.830*	244°	-82°	
U-218 ✓				10,956.369	7,382.507	1100.517	231°22'37"	-23°05'	
U-36	5/3/76	5/3/76	19.8	10,629.594	7,678.689	1167.930	138°40'	+742'	
U-37	5/3/76	8/3/76	53.3	10,630.869	7,679.571	1167.700	095°27'	+9°09'	
U-38	8/3/76	9/3/76	85.3	10,630.151	7,679.156	1167.787	105°43'	+9°41'	
U-74	4/5/76	6/5/76	107.9	10,598.464	7729.023	1174.875	149°49'	+8°25'	
U-76	7/5/76	8/5/76	65.5	10,597.866	7728.257	1174.957	171°18'	+5°43'	
U-78	8/5/76	9/5/76	106.7	10,598.954	7729.645	1174.964	135°46'	+8°50'	
U-77	9/5/76	15/5/76	167.6	10,844.451	7496.313	1124.893	41°42'	-55°37'	
U-123	21/7/76	24/7/76	118.9	10,658.016	7652.817	1160.583	044°	-45°	Collar only (az & dip approx. only)
U-127	24/7/76	25/7/76	45.7	10,658.237	7653.109	1161.793	045°46'	+1°28'	
U-131	26/7/76	28/7/76	126.5	10,655.189	7649.999	1161.721	225°30'	-0°56'	
U-133	26/7/76	28/7/76	126.5	10,657.730	7652.535	1160.534	044°	-60°	Collar only (az & dip approx.)
U-136	29/7/76	30/7/76	76.2	10,655.906	7650.781	1163.461	224°	+48°	Collar only (az & dip approx.)
U-137	30/7/76	1/8/76	61.0	10,658.457	7651.450	1163.970	043°56'	+64°00'	
U-141	9/8/76	11/8/76	152.4	10,576.889	7743.622	1178.456	227°06'	+0°19'	
U-143	9/8/76	12/8/76	132.6	10,580.141	7747.123	1177.476	044°	-25°	Collar only (az & dip approx.)
U-147	15/8/76	18/8/76	76.2	10,577.498	7744.217	1180.791	229°11'	+46°08'	
U-159	27/8/76	28/8/76	76.2	10,578.546	7746.505	1181.476	032°22'	+66°53'	
U-161	28/8/76	29/8/76	59.4	10,576.749	7743.714	1177.377	225°04'	-31°52'	
<del>U-105</del>	<del>27/6/76</del>	<del>29/6/76</del>	<del>38.1</del>	<del>10,937.420</del>	<del>7585.372</del>	<del>1125.217</del>	<del>043°16'</del>	<del>-0°47'</del>	
U-105	27/6/76	29/6/76	38.1	10,937.420	7585.372	1125.691	043°16'	-0°47'	
U-117	16/7/76	16/7/76	61.0	10,832.50	7651.50	1143.7	044°	0°	Collar lost (location approx.)
U-99	6/6/76	15/6/76	182.9	10,935.223	7583.249	1129.43	217°21'	-60°20'	
U-106	5/6/76	9/6/76	137.2	10,752.194	7734.480	1157.253	044°24'	+0°14'	
U-119	19/7/76	19/7/76	103.6	10,656.15	7650.75	1160.60	0	-80°	Collar lost (location approx.)
U-121	20/7/76	21/7/76	65.5	10,655.20	7649.75	1160.60	224°	-60°	Collar lost (location approx.)
U-139	1/8/76	2/8/76	76.2	10,657.10	7651.00	1164.00	224°	+75°	Collar lost (location approx.)