

MCDANIEL CONSULTANTS (1965) LTD.

Oil and Gas Reservoir Evaluations

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March 24, 1965

Oil and Gas Conservation Board
Province of Manitoba
Norquay Building
Winnipeg 1, Manitoba

Attention Mr. M. J. Gobert

Dear Sir:

Attached please find three copies of our letter and tabulations analysing the effects of possible changes in the participation and date of unitization of the Virden-Roselea Unit.

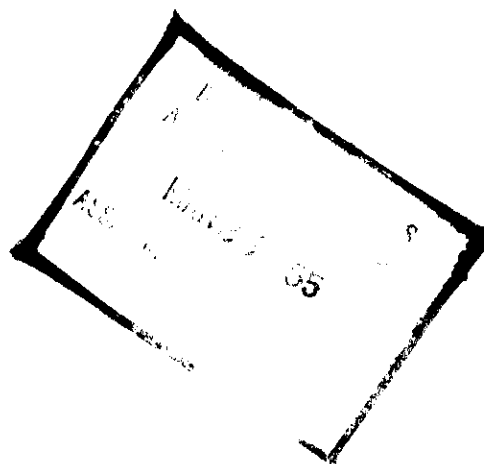
Sincerely yours,

MCDANIEL CONSULTANTS (1965) LTD.

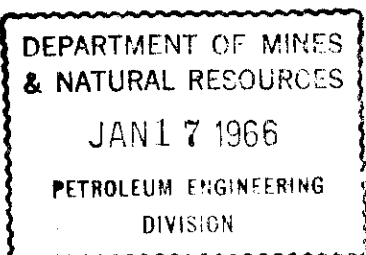
Per: 

R. R. McDaniel, P. Eng.

RRM/js



PROPOSED VIRDEN-ROSELEA UNIT # 1



Tract Factor

LOCATION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY
82010251.	.	.	.	20.	22.	57.	8.
92000000.	128.	134.	133.	122.	120.	98.	51.
112000000.	64.	58.	63.	60.	62.	59.	60.
132000000.	1025.	920.	988.	958.	996.	914.	842.
142000000.	225.	201.	221.	211.	209.	208.	210.
152000000.	312.	291.	349.	344.	344.	362.	536.
162000000.	436.	382.	343.	355.	386.	299.	152.
52100000.	66.	85.	73.	72.	68.	43.	46.
62100000.	147.	146.	143.	142.	142.	128.	282.
72100000.	139.	126.	129.	127.	124.	192.	337.
102100000.	133.	132.	124.	120.	119.	210.	269.
112100000.	133.	199.	149.	207.	141.	788.	899.
122100000.	110.	148.	115.	155.	116.	626.	655.
132100000.	129.	194.	145.	202.	107.	974.	923.
428000000.	342.	321.	330.	304.	275.	287.	252.
129000000.	58.	54.	41.	42.	45.	897.	914.
229000000.	179.	167.	200.	201.	184.	521.	483.
329000000.	436.	409.	431.	437.	456.	341.	997.
429000000.	1181.	1090.	1156.	1046.	1121.	1089.	1050.
529000000.	880.	857.	881.	887.	875.	850.	804.
629000000.	.	.	.	.	.	112.	719.
729000000.	.	.	.	.	.	.	285.
829000000.	715.	623.	618.	693.	587.	647.	600.
1229000000.	.	.	.	.	.	83.	468.
130000000.	383.	394.	364.	382.	399.	386.	387.
230000000.	179.	182.	186.	176.	185.	178.	178.
330000000.	120.	121.	124.	114.	123.	75.	117.
430000000.	387.	395.	401.	345.	307.	297.	297.
530000000.	327.	333.	340.	297.	308.	297.	297.
630000000.	212.	544.	681.	592.	615.	518.	504.
730000000.	332.	304.	290.	358.	431.	416.	416.
830000000.	267.	212.	211.	257.	307.	297.	297.
930000000.	597.	607.	620.	590.	615.	595.	594.
1030000000.	626.	734.	961.	876.	862.	832.	836.
1130000000.	358.	361.	360.	381.	461.	446.	448.
1230000000.	239.	242.	248.	230.	215.	208.	207.
1530000000.	89.	92.	94.	88.	93.	90.	89.
92310261.	.	.	.	.	.	.	109.
10261090000.	818.	743.	808.	803.	742.	701.	673.
1523000000.	463.	434.	464.	448.	426.	415.	305.

162300000.	454.	409.	491.	500.	449.	440.	459.
102400000.	.	.	.	.	2.	145.	164.
112400000.	.	.	.	.	4.	181.	200.
122400000.	105.	103.	109.	99.	104.	37.	40.
132400000.	184.	181.	191.	393.	345.	262.	289.
142400000.	86.	83.	89.	242.	253.	237.	260.
152400000.	409.	402.	423.	384.	404.	386.	276.
162400000.	666.	653.	690.	626.	657.	630.	565.
125000000.	310.	304.	322.	291.	306.	293.	365.
225000000.	237.	233.	246.	217.	228.	218.	263.
325000000.	257.	252.	266.	242.	227.	218.	288.
425000000.	211.	207.	219.	198.	189.	181.	185.
525000000.	185.	181.	191.	174.	182.	200.	220.
625000000.	369.	362.	383.	347.	397.	380.	418.
725000000.	238.	233.	246.	223.	235.	224.	262.
825000000.	1007.	921.	999.	831.	978.	949.	1096.
925000000.	151.	138.	43.	.	87.	124.	195.
1025000000.	187.	168.	186.	160.	182.	149.	219.
1125000000.	230.	227.	239.	217.	220.	218.	103.
1225000000.	396.	389.	410.	373.	391.	375.	446.
1325000000.	189.	175.	182.	181.	183.	158.	175.
1425000000.	144.	133.	139.	137.	139.	117.	133.
1525000000.	235.	215.	233.	201.	229.	243.	276.
1625000000.	127.	116.	126.	109.	124.	132.	149.
726000000.	253.	233.	236.	253.	187.	130.	101.
826000000.	230.	210.	214.	230.	170.	94.	73.
926000000.	220.	173.	194.	207.	202.	190.	188.
1026000000.	313.	246.	275.	293.	287.	269.	267.
1526000000.	249.	196.	219.	234.	229.	215.	213.
1626000000.	312.	244.	273.	291.	285.	267.	265.
136000000.	.	.	.	.	.	.	184.
236000000.	.	.	.	.	.	.	.
585420512.	20189.	19622.	20618.	20295.	20463.	23198.	25933.

GENERAL COLUMNAR ARITHMETIC PROGRAM
 VIRIDEN ROSELEA FIELD - PROPOSED UNIT AREA - 1964 OIL PRODUCTION
 HIGHEST

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SIX MONTHS
 LOCATION AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER PRODUCTION

82010251.	.	30.	22.	35.	.	186.	.
92000000.	49.	68.	55.	63.	119.	756.	.
112000000.	58.	60.	62.	49.	63.	374.	.
132000000.	991.	920.	915.	892.	904.	5878.	.
142000000.	217.	210.	194.	180.	188.	1294.	.
152000000.	445.	366.	394.	362.	365.	2468.	.
162000000.	161.	572.	895.	890.	901.	4076.	.
52100000.	55.	40.	35.	.	48.	419.	.
62100000.	344.	286.	333.	324.	277.	1846.	.
72100000.	274.	236.	287.	271.	246.	1651.	.
102100000.	339.	293.	263.	248.	208.	1622.	.
112100000.	821.	740.	782.	671.	504.	4701.	.
122100000.	642.	576.	617.	604.	438.	3720.	.
132100000.	847.	766.	802.	661.	547.	4973.	.
428000000.	225.	204.	230.	230.	235.	1859.	.
129000000.	825.	731.	753.	673.	688.	4808.	.
229000000.	401.	454.	468.	468.	478.	2872.	.
329000000.	763.	731.	752.	753.	769.	4765.	.
429000000.	1015.	986.	1017.	851.	855.	6683.	.
529000000.	1034.	942.	971.	923.	929.	5686.	.
629000000.	607.	704.	726.	548.	560.	3864.	.
729000000.	410.	256.	303.	304.	310.	1868.	.
829000000.	603.	468.	429.	396.	644.	3940.	.
1229000000.	487.	443.	166.	165.	166.	1895.	.
130000000.	400.	392.	400.	389.	392.	2377.	.
230000000.	202.	241.	246.	239.	240.	1354.	.
330000000.	159.	241.	246.	239.	240.	1249.	.
430000000.	307.	302.	308.	299.	300.	2143.	.
530000000.	308.	302.	298.	269.	269.	1918.	.
630000000.	523.	515.	492.	419.	422.	3473.	.
730000000.	377.	242.	246.	239.	240.	2330.	.
830000000.	307.	302.	308.	239.	240.	1818.	.
930000000.	615.	607.	615.	598.	586.	3679.	.
1030000000.	861.	846.	854.	807.	804.	5260.	.
1130000000.	461.	452.	461.	123.	301.	2729.	.
1230000000.	215.	212.	215.	209.	209.	1389.	.
1530000000.	93.	93.	95.	90.	89.	560.	.
92310261.	202.	224.	203.	148.	154.	1040.	.
1023000000.	594.	596.	612.	536.	530.	4615.	.
523000000.	686.	625.	615.	518.	416.	3371.	.

162300000.	461.	446.	460.	440.	431.	2825.	.
102400000.	172.	141.	149.	212.	219.	1061.	.
112400000.	208.	195.	207.	186.	192.	1188.	.
122400000.	43.	41.	43.	38.	41.	563.	.
132400000.	273.	256.	271.	187.	161.	1833.	.
142400000.	108.	114.	106.	533.	462.	1987.	.
152400000.	287.	344.	363.	327.	338.	2408.	.
162400000.	537.	465.	492.	444.	457.	3922.	.
12500000.	379.	330.	356.	321.	332.	2084.	.
22500000.	273.	256.	249.	224.	232.	1524.	.
32500000.	300.	283.	236.	213.	219.	1646.	.
42500000.	208.	196.	185.	166.	172.	1239.	.
52500000.	223.	208.	185.	167.	172.	1227.	.
62500000.	423.	337.	464.	417.	432.	2551.	.
72500000.	272.	257.	197.	181.	185.	1510.	.
82500000.	1538.	1457.	1389.	1316.	1314.	8110.	.
92500000.	172.	164.	156.	147.	146.	985.	.
102500000.	197.	189.	178.	168.	169.	1160.	.
112500000.	100.	101.	108.	838.	962.	2716.	.
122500000.	467.	438.	464.	341.	352.	2602.	.
132500000.	156.	152.	159.	143.	143.	1085.	.
142500000.	140.	145.	154.	138.	139.	861.	.
152500000.	248.	238.	224.	212.	212.	1473.	.
162500000.	134.	128.	121.	115.	114.	796.	.
72600000.	134.	131.	140.	132.	169.	1331.	.
82600000.	98.	96.	102.	97.	123.	1177.	.
92600000.	233.	193.	243.	293.	312.	1508.	.
102600000.	188.	150.	180.	208.	221.	1704.	.
152600000.	273.	423.	286.	293.	313.	1837.	.
162600000.	273.	178.	140.	163.	171.	1701.	.
13600000.	351.	366.	436.	249.	.	1586.	.
23600000.	.	.	.	.	.	.	.
585420512.	26792.	25692.	26128.	24831.	24779.	169709.	.

LOCATION	TOTAL FIRST QUARTER	TOTAL SECOND QUARTER	TOTAL THIRD QUARTER
82010251.	262.	42.	8.
92000000.	122.	242.	100.
112000000.	1945.	122.	118.
132000000.	426.	1954.	178.
142000000.	603.	420.	2753.
152000000.	818.	688.	637.
162000000.	151.	741.	1347.
52100000.	293.	140.	885.
62100000.	265.	284.	141.
72100000.	265.	251.	912.
102100000.	332.	239.	847.
112100000.	258.	348.	901.
122100000.	323.	271.	2460.
132100000.	663.	309.	1873.
428000000.	112.	579.	2536.
129000000.	346.	87.	681.
229000000.	845.	385.	477.
329000000.	2271.	893.	1720.
429000000.	1737.	2167.	1297.
529000000.	629000000.	1762.	1770.
729000000.	1338.	1280.	460.
829000000.	777.	781.	1739.
1229000000.	361.	361.	884.
1300000000.	241.	237.	906.
2300000000.	782.	652.	1234.
3300000000.	660.	605.	83.
4300000000.	756.	1207.	1167.
5300000000.	636.	789.	539.
6300000000.	479.	564.	312.
7300000000.	1204.	1205.	276.
8300000000.	1360.	1738.	604.
9300000000.	719.	842.	902.
10300000000.	481.	445.	605.
11300000000.	181.	181.	1027.
12300000000.	1561.	1545.	1725.
13300000000.	897.	874.	1205.
14300000000.	1023000000.	2246.	861.
15300000000.	1023000000.	1289.	1800.
16300000000.	1023000000.	1289.	1209.
17300000000.	1023000000.	1289.	1697.
18300000000.	1023000000.	1289.	2543.
19300000000.	1023000000.	1289.	1361.
20300000000.	1023000000.	1289.	584.
21300000000.	1023000000.	1289.	424.
22300000000.	1023000000.	1289.	185.
23300000000.	1023000000.	1289.	351.
24300000000.	1023000000.	1289.	1148.
25300000000.	1023000000.	1289.	1133.

162300000.	863.	1354.	949.	1389.	920.	1366.	900.
102400000.	.	.	2.	147.	336.	477.	361.
112400000.	.	.	4.	185.	408.	603.	393.
122400000.	208.	317.	203.	240.	83.	124.	81.
132400000.	365.	556.	738.	1000.	562.	818.	458.
142400000.	169.	258.	495.	732.	368.	482.	639.
152400000.	811.	1234.	798.	1174.	563.	907.	690.
162400000.	1319.	2009.	1283.	1913.	1102.	1567.	936.
125000000.	614.	936.	597.	890.	744.	1074.	677.
225000000.	470.	716.	445.	663.	536.	792.	473.
325000000.	509.	775.	469.	687.	588.	871.	449.
425000000.	418.	637.	387.	568.	393.	589.	351.
525000000.	366.	557.	356.	556.	443.	651.	352.
625000000.	731.	1114.	744.	1124.	841.	1178.	381.
725000000.	471.	717.	458.	682.	534.	791.	378.
825000000.	1928.	2927.	1809.	2758.	2634.	4091.	2705.
925000000.	289.	332.	87.	211.	367.	531.	303.
1025000000.	355.	541.	342.	491.	416.	605.	346.
1125000000.	457.	696.	437.	655.	203.	304.	946.
1225000000.	785.	1195.	764.	1139.	913.	1351.	805.
1325000000.	364.	546.	364.	522.	331.	483.	302.
1425000000.	277.	416.	276.	393.	273.	418.	292.
1525000000.	450.	683.	430.	673.	524.	762.	436.
1625000000.	243.	369.	233.	365.	283.	411.	236.
726000000.	486.	722.	440.	570.	235.	366.	272.
826000000.	440.	654.	400.	494.	171.	267.	199.
926000000.	393.	587.	409.	599.	421.	614.	536.
1026000000.	559.	834.	580.	849.	455.	605.	388.
1526000000.	445.	664.	463.	678.	486.	909.	579.
1626000000.	556.	829.	576.	843.	538.	716.	303.
136000000.	.	.	.	.	535.	901.	685.
236000000.	.	.	.	.	.	.	.
585420512.	39811.	60429.	40758.	63956.	52725.	78417.	50959.

GENERAL COLUMNAR ARITHMETIC PROGRAM PAGE 04 SET 001
VIRIDEN ROSELEA FIELD - PROPOSED UNIT AREA - 1964 OIL PRODUCTION
INC WELL AS FRAC TOT

LOCATION	TOTAL FOURTH QUARTER	FIRST HALF YEAR	MIDDLE SIX MONTHS	SECOND HALF YEAR	TOTAL 1964	HIGHEST SIX MONTHS	TOTAL FIRST QUARTER
22010251.	57.	99.	137.	95.	194.	.0010959	.0000000
92000000.	237.	735.	508.	405.	1140.	.0044546	.0065365
112000000.	174.	366.	359.	352.	718.	.0022037	.0030614
132000000.	2711.	5801.	5621.	5464.	11265.	.0346357	.0485362
142000000.	562.	1275.	1265.	1199.	2474.	.0076248	.0107067
152000000.	1121.	2002.	2397.	2468.	4470.	.0145425	.0157540
162000000.	2686.	2201.	1925.	3571.	5772.	.0240175	.0192126
52100000.	83.	407.	324.	224.	631.	.0024689	.0037068
62100000.	934.	848.	1324.	1846.	2694.	.0108774	.0072150
72100000.	804.	837.	1290.	1651.	2488.	.0097284	.0065200
102100000.	719.	838.	1350.	1620.	2458.	.0095575	.0064373
112100000.	1957.	1617.	3596.	4417.	6034.	.0277003	.0079597
122100000.	1659.	1270.	2770.	3532.	4802.	.0219198	.0061725
132100000.	2010.	1751.	3819.	4546.	6297.	.0293031	.0077446
42800000.	695.	1859.	1547.	1376.	3235.	.0109540	.0164325
12900000.	2114.	1137.	3454.	4584.	5721.	.0283308	.0025318
22900000.	1414.	1452.	2244.	2752.	4204.	.0169230	.0090353
32900000.	2274.	2510.	3725.	4765.	7275.	.0280774	.0211156
42900000.	2723.	6683.	6307.	5774.	12457.	.0393791	.0567111
52900000.	2823.	5230.	5392.	5603.	10833.	.0335044	.0433235
62900000.	1834.	112.	2142.	3864.	3976.	.0227683	.0000000
72900000.	917.	.	951.	1868.	1868.	.0110070	.0000000
82900000.	1469.	3883.	3598.	3140.	7023.	.0232162	.0323685
122900000.	497.	83.	1481.	1895.	1978.	.0111661	.0000000
130000000.	1181.	2308.	2346.	2360.	4668.	.0140063	.0188816
230000000.	725.	1086.	1160.	1346.	2432.	.0079783	.0090519
330000000.	725.	677.	829.	1242.	1919.	.0073596	.0060401
430000000.	907.	2132.	1855.	1813.	3945.	.0126274	.0195766
530000000.	836.	1902.	1809.	1743.	3645.	.0113016	.0165483
630000000.	1333.	3162.	3267.	2875.	6037.	.0204644	.0237799
730000000.	725.	2131.	2240.	1760.	3891.	.0137293	.0153237
830000000.	787.	1551.	1767.	1693.	3244.	.0107124	.0114183
930000000.	1799.	3624.	3616.	3615.	7239.	.0216782	.0301841
1030000000.	2465.	4891.	5113.	5008.	9899.	.0309942	.0384087
1130000000.	885.	2367.	2649.	2246.	4613.	.0160804	.0178556
1230000000.	633.	1382.	1287.	1267.	2649.	.0081845	.0120637
1530000000.	274.	546.	546.	549.	1095.	.0032997	.0045507
92310261.	505.	.	535.	1040.	1040.	.0061281	.0000000
1023100000.	1678.	4615.	4109.	3541.	8156.	.0271936	.0392030
1023100000.	1549.	2650.	2905.	3165.	5815.	.0198634	.0225222

162300000.	1331.	2743.	2755.	2697.	5440.	.0166461	.0224064
102400000.	580.	147.	624.	1057.	1204.	.0062518	.0000000
112400000.	585.	185.	788.	1188.	1373.	.0070002	.0000000
122400000.	122.	557.	364.	246.	803.	.0033174	.0052458
132400000.	619.	1556.	1818.	1437.	2993.	.0108008	.0092008
142400000.	1101.	990.	1214.	1583.	2573.	.0117082	.0042694
152400000.	1028.	2408.	2081.	1935.	4343.	.0141889	.0204206
162400000.	1393.	3922.	3480.	2960.	6882.	.0231101	.0332456
125000000.	1009.	1826.	1964.	2083.	3909.	.0122798	.0154892
225000000.	705.	1379.	1455.	1497.	2876.	.0089800	.0118486
325000000.	668.	1462.	1558.	1539.	3001.	.0096989	.0128249
425000000.	523.	1205.	1157.	1112.	2317.	.0073007	.0105412
525000000.	524.	1113.	1207.	1175.	2288.	.0072300	.0092174
625000000.	1313.	2238.	2302.	2491.	4729.	.0150316	.0184348
725000000.	563.	1399.	1473.	1354.	2753.	.0088975	.0118651
825000000.	4019.	5685.	6849.	8110.	13795.	.0477876	.0484370
925000000.	449.	543.	742.	980.	1523.	.0058040	.0054940
1025000000.	515.	1032.	1096.	1120.	2152.	.0068352	.0089526
1125000000.	1908.	1351.	959.	2212.	3563.	.0160038	.0115176
1225000000.	1157.	2334.	2490.	2508.	4842.	.0153321	.0197752
1325000000.	445.	1068.	1005.	928.	1996.	.0063932	.0090353
1425000000.	431.	809.	811.	849.	1658.	.0050733	.0068841
1525000000.	648.	1356.	1435.	1410.	2766.	.0086795	.0113025
1625000000.	350.	734.	776.	761.	1495.	.0046903	.0061063
726000000.	441.	1292.	936.	807.	2099.	.0078428	.0119479
826000000.	322.	1148.	761.	589.	1737.	.0069354	.0108226
926000000.	848.	1186.	1213.	1462.	2648.	.0088857	.0097138
1026000000.	609.	1683.	1454.	1214.	2897.	.0100407	.0138013
1526000000.	892.	1342.	1587.	1801.	3143.	.0108244	.0109881
1626000000.	474.	1672.	1559.	1190.	2862.	.0100230	.0137185
136000000.	685.	.	901.	1586.	1586.	.0093454	.0000000
236000000.0000000	.0000000
585420512.	75738.	124385.	142373.	154155.	278540.	.9999962	.9999966

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GENERAL COLUMNAR ARITHMETIC PROGRAM
VIRIDEN ROSELEA FIELD - PROPOSED UNIT AREA - 1964 OIL PRODUCTION
INDIVIDUAL WELL DATA AS FRACTION OF TOTAL

PAGE 05 SET 001

LOCATION	TOTAL SECOND QUARTER		TOTAL THIRD QUARTER		TOTAL FOURTH QUARTER		FIRST HALF YEAR		MIDDLE SIX MONTHS		SECOND HALF YEAR		TOTAL 1964
82010251.	.0015479	.0004845	.0007525	.0007959	.0009622	.0006162	.0006964						
92000000.	.0053161	.0021423	.0031292	.0059090	.0035680	.0026272	.0040927						
112000000.	.0028300	.0022699	.0022973	.0029424	.0025215	.0022834	.0025777						
132000000.	.0448433	.0351071	.0357944	.0466374	.0394908	.0354448	.0404430						
142000000.	.0098192	.0081232	.0074203	.0102504	.0088851	.0077778	.0088820						
152000000.	.0164175	.0171773	.0148010	.0160951	.0168360	.0160098	.0160479						
162000000.	.0162611	.0112858	.0354643	.0176950	.0135208	.0231649	.0207223						
52100000.	.0028613	.0017980	.0010958	.0032720	.0022757	.0014530	.0022653						
62100000.	.0064419	.0116301	.0123319	.0068175	.0092995	.0119749	.0096718						
72100000.	.0069266	.0108012	.0106155	.0067291	.0090607	.0107099	.0089322						
102100000.	.0070204	.0114898	.0094932	.0067371	.0094821	.0105089	.0088245						
112100000.	.0177622	.0313707	.0258390	.0129999	.0252575	.0286529	.0216629						
122100000.	.0140252	.0238851	.0219044	.0102102	.0194559	.0229120	.0172396						
132100000.	.0200606	.0323399	.0265388	.0140772	.0268239	.0294897	.0226071						
42800000.	.0135405	.0086843	.0091763	.0149455	.0108658	.0089260	.0116141						
129000000.	.0153855	.0314982	.0279120	.0091409	.0242602	.0297363	.0205392						
229000000.	.0141659	.0170626	.0186696	.0116734	.0157614	.0178521	.0150929						
329000000.	.0192945	.0317660	.0300245	.0201792	.0261636	.0309104	.0261183						
429000000.	.0509100	.0389073	.0359528	.0537283	.0442991	.0374558	.0447224						
529000000.	.0408405	.0354514	.0372732	.0420468	.0378723	.0363465	.0388920						
629000000.	.0017512	.0258872	.0242150	.0009004	.0150449	.0250656	.0142744						
729000000.	.0000000	.0121274	.0121075	.0000000	.0066796	.0121176	.0067063						
829000000.	.0301300	.0213091	.0193958	.0312175	.0252716	.0203691	.0252136						
1229000000.	.0012977	.0178277	.0065620	.0006672	.0104022	.0122923	.0071013						
130000000.	.0182469	.0150350	.0155932	.0185552	.0164778	.0153092	.0167588						
230000000.	.0084276	.0079192	.0095724	.0087309	.0081476	.0087314	.0087312						
330000000.	.0048783	.0065929	.0095724	.0054427	.0058227	.0080568	.0068894						
430000000.	.0148383	.0115536	.0119754	.0171403	.0130291	.0117608	.0141631						
530000000.	.0141034	.0115663	.0110380	.0152912	.0127060	.0113068	.0130860						
630000000.	.0269716	.0196641	.0176001	.0254210	.0229467	.0186500	.0216737						
730000000.	.0188410	.0131986	.0095724	.0171322	.0157333	.0114170	.0139692						
830000000.	.0134623	.0115536	.0103910	.0124693	.0124110	.0109824	.0116464						
930000000.	.0281443	.0231582	.0237529	.0291353	.0253980	.0234504	.0259890						
1030000000.	.0401838	.0324291	.0325464	.0393214	.0359127	.0324867	.0355388						
1130000000.	.0201388	.0173559	.0116850	.0190296	.0186060	.0145697	.0165613						
1230000000.	.0102101	.0080849	.0083577	.0111106	.0090396	.0082190	.0095103						
1530000000.	.0042372	.0035068	.0036177	.0043895	.0038349	.0035613	.0039312						
92310261.	.0000000	.0068225	.0066677	.0000000	.0037577	.0067464	.0037337						
10231090000.	.0351178	.0237576	.0221553	.0371025	.0288608	.0229703	.0292812						
10230000000.	.0201544	.0206077	.0204520	.0213048	.0204041	.0205312	.0208767						

162300000.	.0217180	.0174196	.0175737	.0220524	.0193505	.0174953	.0195304
102400000.	.0022984	.0060828	.0076579	.0011818	.0043828	.0068567	.0043225
112400000.	.0028926	.0076896	.0077239	.0014873	.0055347	.0077065	.0049292
122400000.	.0037525	.0015812	.0016108	.0044780	.0025566	.0015957	.0028828
132400000.	.0156357	.0104314	.0081729	.0125095	.0127692	.0093217	.0107453
142400000.	.0114453	.0061466	.0145369	.0079591	.0085268	.0102688	.0092374
152400000.	.0183563	.0115663	.0135731	.0193592	.0146165	.0125523	.0155920
162400000.	.0299111	.0199829	.0183923	.0315311	.0244428	.0192014	.0247074
125000000.	.0139158	.0136960	.0133222	.0146802	.0137947	.0135123	.0140338
225000000.	.0103665	.0100998	.0093084	.0110865	.0102196	.0097110	.0103252
325000000.	.0107417	.0111072	.0088198	.0117538	.0109430	.0099834	.0107740
425000000.	.0088811	.0075111	.0069053	.0096876	.0081265	.0072135	.0083183
525000000.	.0086934	.0083017	.0069185	.0089480	.0084777	.0076221	.0082142
625000000.	.0175745	.0150222	.0173360	.0179925	.0161687	.0161590	.0169778
725000000.	.0106635	.0100870	.0074335	.0112473	.0103460	.0087833	.0098836
825000000.	.0431233	.0521698	.0530645	.0457048	.0481060	.0526093	.0495261
925000000.	.0032991	.0067714	.0059283	.0043654	.0052116	.0063572	.0054677
1025000000.	.0076771	.0077151	.0067997	.0082968	.0076980	.0072654	.0077259
1125000000.	.0102414	.0038767	.0251921	.0108614	.0067358	.0143491	.0127916
1225000000.	.0178091	.0172284	.0152763	.0187643	.0174892	.0162693	.0173834
1325000000.	.0081618	.0061593	.0058755	.0085862	.0070589	.0060199	.0071659
1425000000.	.0061448	.0053304	.0056906	.0065039	.0056963	.0055074	.0059524
1525000000.	.0105228	.0097172	.0085558	.0109016	.0100791	.0091466	.0099303
1625000000.	.0057070	.0052412	.0046211	.0059010	.0054504	.0049365	.0053672
726000000.	.0089123	.0046673	.0058227	.0103871	.0065742	.0052349	.0075357
826000000.	.0077240	.0034048	.0042514	.0092294	.0053451	.0038208	.0062360
926000000.	.0093658	.0078299	.0111964	.0095349	.0085198	.0094839	.0095067
1026000000.	.0132747	.0077151	.0080408	.0135305	.0102126	.0078751	.0104006
1526000000.	.0106010	.0115918	.0117774	.0107890	.0111467	.0116830	.0112838
1626000000.	.0131809	.0091306	.0062584	.0134421	.0109501	.0077195	.0102750
136000000.	.0000000	.0114898	.0090443	.0000000	.0063284	.0102883	.0056939
236000000.	.0000000	.0000000	.0000000	.0000000	.0000000	.0000000	.0000000
585420512.	.9999964	.9999963	.9999964	.9999966	.9999967	.9999962	.9999962

GENERAL COLUMNAR ARITHMETIC PROGRAM
TRACT FACTORS BASED ON PRODUCTION

PAGE 01 SET 001
FIFTY
CROWN
SHARE

LOCATION	MIDDLE		FIRST		MIDDLE		LAST		HIGHEST		OF	
	HALF		HALF		HALF		HALF		SIX	CURRENT	ROYALTY	
									MONTHS	PART.	PERCENT	
8201025.	.0009175		.0007959		.0009622		.0006162		.0010959	.0481100	28.75	
9200000.	.0058922		.0059090		.0035680		.0026272		.0044546	.1784100	15.50	
11200000.	.0075039		.0029424		.0025215		.0022834		.0022037	.1260800	3.75	
12200000.	.0001498		.0000000		.0000000		.0000000		.0000000	.0000000	.00	
13200000.	.0149816		.0466374		.0394808		.0354448		.0346357	1.9740400	6.50	
14200000.	.0224789		.0102504		.0088851		.0077778		.0076248	.4442500	22.25	
15200000.	.0138651		.0160951		.0168360		.0160098		.0145425	.8418000	26.00	
16200000.	.0151804		.0176950		.0135208		.0231649		.0240175	.6760400	12.50	
5210000.	.0021944		.0032720		.0022757		.0014530		.0024689	.1137900	9.50	
6210000.	.0077057		.0068175		.0092995		.0119749		.0108774	.4649800	.25	
7210000.	.0081919		.0067291		.0090607		.0107099		.0097284	.4530300	.00	
10210000.	.0114152		.0067371		.0094821		.0105089		.0095575	.4741100	.00	
11210000.	.0135878		.0129999		.0252575		.0286529		.0277003	1.2628800	.00	
12210000.	.0115866		.0102102		.0194559		.0229120		.0219198	.9728800	18.75	
13210000.	.0150337		.0140772		.0268239		.0294897		.0293031	1.3411900	.00	
4280000.	.0119773		.0149455		.0108658		.0089260		.0109540	.5432900	100.00	
5280000.	.0000666		.0000000		.0000000		.0000000		.0000000	.0000000	.00	
1290000.	.0161475		.0091409		.0242602		.0297363		.0283308	1.2130100	100.00	
2290000.	.0131038		.0116734		.0157614		.0178521		.0169230	.7880700	100.00	
3290000.	.0418502		.0201792		.0261636		.0309104		.0280774	1.3081800	100.00	
4290000.	.0522305		.0537283		.0442991		.0374558		.0393791	2.2149600	100.00	
5290000.	.0271573		.0420468		.0378723		.0363465		.0335044	1.8936200	100.00	
6290000.	.0059926		.0009004		.0150449		.0250656		.0227683	.7522500	100.00	
7290000.	.0063443		.0000000		.0066796		.0121176		.0110070	.3339800	100.00	
8290000.	.0181789		.0312175		.0252716		.0203691		.0232162	1.2635800	100.00	
12290000.	.0027169		.0006672		.0104022		.0122928		.0111661	.5201100	100.00	
1300000.	.0216334		.0185552		.0164778		.0153092		.0140063	.8238900	.00	
2300000.	.0090276		.0087309		.0081476		.0087314		.0079783	.4073800	.00	
3300000.	.0062797		.0054427		.0058227		.0080568		.0073596	.2911400	.00	
4300000.	.0170386		.0171403		.0130291		.0117608		.0126274	.6514600	.00	
5300000.	.0166348		.0152912		.0127060		.0113068		.0113016	.6353000	.00	
6300000.	.0190792		.0254210		.0229467		.0186500		.0204644	1.1473400	.00	
7300000.	.0205410		.0171322		.0157333		.0114170		.0137293	.7866700	.00	
8300000.	.0128503		.0124693		.0124110		.0109824		.0107124	.6205600	8.00	
9300000.	.0368969		.0291353		.0253980		.0234504		.0216782	1.2699000	13.50	
10300000.	.0334875		.0393214		.0359127		.0324867		.0309942	1.7956300	.00	
11300000.	.0182118		.0190296		.0186060		.0145697		.0160804	.9303000	.00	
12300000.	.0129831		.0111106		.0090396		.0082190		.0081845	.4519800	.00	
13300000.	.0037722		.0043895		.0038349		.0035613		.0032997	.1917500	.00	
9231026.	.0042784		.0000000		.0037577		.0067464		.0061281	.1878800	.00	
McDaniel Consultants Ltd. Calgary, Alberta												

10230000.	.0265084	.0371025	.0288608	.0229703	.0271936	1.4430400	.00
15230000.	.0169654	.0213048	.0204041	.0205312	.0198634	1.0202100	.00
16230000.	.0123992	.0220524	.0193505	.0174953	.0166461	.9675300	.00
9240000.	.0011522	.0000000	.0000000	.0000000	.0000000	.0000000	.00
10240000.	.0019965	.0011818	.0043828	.0068567	.0062518	.2191400	.00
11240000.	.0030690	.0014873	.0055347	.0077065	.0070002	.2767400	.00
12240000.	.0052868	.0044780	.0025566	.0015957	.0033174	.1278300	.00
13240000.	.0136294	.0125095	.0127692	.0093217	.0108008	.6384600	.00
14240000.	.0099563	.0079591	.0085268	.0102688	.0117082	.4263500	.00
15240000.	.0167767	.0193592	.0146165	.0125523	.0141889	.7308300	.00
16240000.	.0260292	.0315311	.0244428	.0192014	.0231101	1.2221400	.00
1250000.	.0144585	.0146802	.0137947	.0135123	.0122798	.6897400	.00
2250000.	.0139400	.0110865	.0102196	.0097110	.0089800	.5109800	.00
3250000.	.0137422	.0117538	.0109430	.0099834	.0096989	.5471500	.00
4250000.	.0080467	.0096876	.0081265	.0072135	.0073007	.4063300	.00
5250000.	.0113678	.0089480	.0084777	.0076221	.0072300	.4238900	.00
6250000.	.0124561	.0179925	.0161687	.0161590	.0150316	.8084400	.00
7250000.	.0212718	.0112473	.0103460	.0087833	.0088975	.5173000	.00
8250000.	.0298871	.0457048	.0481060	.0526093	.0477876	2.4053000	.00
9250000.	.0138290	.0043654	.0052116	.0063572	.0058040	.2605800	.00
10250000.	.0161248	.0082968	.0076980	.0072654	.0068352	.3849000	.00
11250000.	.0222431	.0108614	.0067358	.0143491	.0160038	.3367900	.00
12250000.	.0263448	.0187643	.0174892	.0162693	.0153321	.8744600	.00
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15250000.	.0101420	.0109016	.0100791	.0091466	.0086795	.5039600	.00
16250000.	.0072496	.0059010	.0054504	.0049365	.0046903	.2725300	.00
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7260000.	.0068069	.0103871	.0065742	.0052349	.0078428	.3287100	.00
8260000.	.0089507	.0092294	.0053451	.0038208	.0069354	.2672600	.00
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10260000.	.0080472	.0135305	.0102126	.0078751	.0100407	.5106300	.00
15260000.	.0078976	.0107890	.0111467	.0116830	.0108244	.5573400	.00
16260000.	.0064538	.0134421	.0109501	.0077195	.0100230	.5475100	.00
1360000.	.0003047	.0000000	.0063284	.0102883	.0093454	.3164200	.00
2360000.	.0008391	.0000000	.0000000	.0000000	.0000000	.0000000	.00
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.00807370	.00457040	.01213010	.01486810	.01416540	.12500000	.	.
.00655190	.00583670	.00788070	.00892600	.00846150	.12500000	.	.
.02092510	.01008960	.01308180	.01545520	.01403870	.12500000	.	.
.02611520	.02686410	.02214950	.01872790	.01968950	.12500000	.	.
.01357860	.02102340	.01893610	.01817320	.01675220	.12500000	.	.
.00299630	.00045020	.00752240	.01253280	.01138410	.12500000	.	.
.00317210	.00000000	.00333980	.00605880	.00550350	.12500000	.	.
.00908940	.01560870	.01263580	.01018450	.01160810	.12500000	.	.
.00135840	.00033360	.00520110	.00614640	.00558300	.12500000	.	.
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.01844840	.01456760	.01269900	.01172520	.01083910	.01687500	.	.
.01674370	.01966070	.01795630	.01624330	.01549710	.00000000	.	.
.00910590	.00951480	.00930300	.00728480	.00804020	.00000000	.	.
.00649150	.00555530	.00451980	.00410950	.00409220	.00000000	.	.
.00188610	.00219470	.00191740	.00178060	.00164980	.00000000	.	.
.00213920	.00000000	.00187880	.00337320	.00306400	.00000000	.	.

.01325420	.01855120	.01443040	.01148510	.01359680	.00000000	.
.00848270	.01065240	.01020200	.01026560	.00993170	.00000000	.
.00619960	.01102620	.00967520	.00874760	.00832300	.00000000	.
.00057610	.00000000	.00000000	.00000000	.00000000	.00000000	.
.00099820	.00059090	.00219140	.00342830	.00312590	.00000000	.
.00153490	.00074360	.00276730	.00385320	.00350010	.00000000	.
.00264340	.00223900	.00127830	.00079780	.00165870	.00000000	.
.00681470	.00625470	.00638460	.00466080	.00540040	.00000000	.
.00497810	.00397950	.00426340	.00513440	.00585410	.00000000	.
.00838830	.00967960	.00730820	.00627610	.00709440	.00000000	.
.01301460	.01576550	.01222140	.00960070	.01155500	.00000000	.
.00722920	.00734010	.00689730	.00675610	.00613990	.00000000	.
.00697000	.00554320	.00510980	.00485550	.00449000	.00000000	.
.00687110	.00587690	.00547150	.00499170	.00484940	.00000000	.
.00402330	.00484380	.00406320	.00360670	.00365030	.00000000	.
.00568390	.00447400	.00423880	.00381100	.00361500	.00000000	.
.00622800	.00899620	.00808430	.00807950	.00751580	.00000000	.
.01063590	.00562360	.00517300	.00439160	.00444870	.00000000	.
.01494350	.02285240	.02405300	.02630460	.02389380	.00000000	.
.00691490	.00218270	.00260580	.00317860	.00290200	.00000000	.
.00806240	.00414840	.00384900	.00363270	.00341760	.00000000	.
.01112150	.00543070	.00336790	.00717450	.00800190	.00000000	.
.01317240	.00938210	.00874460	.00813460	.00766600	.00000000	.
.00445860	.00429310	.00352940	.00300990	.00319660	.00000000	.
.00555910	.00325190	.00284810	.00275370	.00253660	.00000000	.
.00507100	.00545080	.00503950	.00457330	.00433970	.00000000	.
.00362480	.00295050	.00272520	.00246820	.00234510	.00000000	.
.00013660	.00000000	.00000000	.00000000	.00000000	.00000000	.
.00340340	.00519350	.00328710	.00261740	.00392140	.00000000	.
.00447530	.00461470	.00267250	.00191040	.00346770	.00000000	.
.00317540	.00476740	.00425990	.00474190	.00444280	.00000000	.
.00402360	.00676520	.00510630	.00393750	.00502030	.00000000	.
.00394880	.00539450	.00557330	.00584150	.00541220	.00000000	.
.00322690	.00672100	.00547500	.00385970	.00501150	.00000000	.
.00015230	.00000000	.00316420	.00514410	.00467270	.00000000	.
.00041950	.00000000	.00000000	.00000000	.00000000	.00000000	.
.49999860	.49999830	.49999830	.49999810	.49999810J	.45656250	.

10230000.	.0276846	.0329816	.0288608	.0259155	.0280272	.0000000	.0000000
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16230000.	.0158749	.0207015	.0193505	.0184229	.0179983	.0000000	.0000000
9240000.	.0005761	.0000000	.0000000	.0000000	.0000000	.0000000	.0000000
10240000.	.0031896	.0027823	.0043828	.0056197	.0053173	.0000000	.0000000
11240000.	.0043019	.0035110	.0055347	.0066206	.0062675	.0000000	.0000000
12240000.	.0039217	.0035173	.0025566	.0020761	.0029370	.0000000	.0000000
13240000.	.0131993	.0126393	.0127692	.0110454	.0117850	.0000000	.0000000
14240000.	.0092416	.0082430	.0085269	.0093979	.0101176	.0000000	.0000000
15240000.	.0156966	.0169879	.0146165	.0135844	.0144027	.0000000	.0000000
16240000.	.0252360	.0279869	.0244428	.0218221	.0237764	.0000000	.0000000
1250000.	.0141266	.0142375	.0137947	.0136535	.0130373	.0000000	.0000000
2250000.	.0120798	.0106530	.0102196	.0099653	.0095998	.0000000	.0000000
3250000.	.0123426	.0113484	.0109430	.0104632	.0103209	.0000000	.0000000
4250000.	.0080866	.0089071	.0081265	.0076700	.0077136	.0000000	.0000000
5250000.	.0099228	.0087129	.0084777	.0080499	.0078539	.0000000	.0000000
6250000.	.0143124	.0170806	.0161687	.0161639	.0156002	.0000000	.0000000
7250000.	.0158089	.0107966	.0103460	.0095646	.0096217	.0000000	.0000000
8250000.	.0389965	.0469054	.0481060	.0503576	.0479468	.0000000	.0000000
9250000.	.0095203	.0047885	.0052116	.0057844	.0055078	.0000000	.0000000
10250000.	.0119114	.0079974	.0076980	.0074817	.0072666	.0000000	.0000000
11250000.	.0144894	.0087986	.0067358	.0105424	.0113698	.0000000	.0000000
12250000.	.0219170	.0181267	.0174892	.0168792	.0164106	.0000000	.0000000
13250000.	.0079881	.0078226	.0070589	.0065394	.0067261	.0000000	.0000000
14250000.	.0084073	.0061001	.0056963	.0056019	.0053848	.0000000	.0000000
15250000.	.0101106	.0104904	.0100791	.0096129	.0093793	.0000000	.0000000
16250000.	.0063501	.0056758	.0054505	.0051935	.0050704	.0000000	.0000000
1260000.	.0001366	.0000000	.0000000	.0000000	.0000000	.0000000	.0000000
7260000.	.0066905	.0084806	.0065742	.0059045	.0072085	.0000000	.0000000
8260000.	.0071479	.0072873	.0053451	.0045830	.0061403	.0000000	.0000000
9260000.	.0074353	.0090273	.0085198	.0090018	.0087027	.0000000	.0000000
10260000.	.0091299	.0118715	.0102126	.0090438	.0101266	.0000000	.0000000
15260000.	.0095222	.0109679	.0111467	.0114149	.0109856	.0000000	.0000000
16260000.	.0087020	.0121961	.0109501	.0093348	.0104866	.0000000	.0000000
1360000.	.0033165	.0031642	.0063284	.0083083	.0078369	.0000000	.0000000
2360000.	.0004195	.0000000	.0000000	.0000000	.0000000	.0000000	.0000000
686522051.	.9999969	.9999967	.9999966	.9999963	.9999965	.0283431	.0275679

LOCATION	CROWN SHARE EMPLOYING		HIGHEST SIX MOS 1964	
	MIDDLE HALF 1964	LAST HALF 1964		
8201025.	.00002345	.0000283	.0000369	.
9250000.	.0000691	.0000600	.0000777	.
11200000.	.0000118	.0000112	.0000110	.
12200000.	.0000000	.0000000	.0000000	.
13200000.	.0003207	.0003043	.0003010	.
14200000.	.0002471	.0002317	.0002295	.
15200000.	.0005471	.0005337	.0005098	.
16200000.	.0002112	.0002866	.0002932	.
5210000.	.0000270	.0000221	.0000281	.
6210000.	.0000029	.0000033	.0000031	.
7210000.	.0000000	.0000000	.0000000	.
10210000.	.0000000	.0000000	.0000000	.
11210000.	.0000000	.0000000	.0000000	.
12210000.	.0004559	.0004965	.0004848	.
13210000.	.0000000	.0000000	.0000000	.
4280000.	.0013582	.0012369	.0013637	.
5280000.	.0000000	.0000000	.0000000	.
1290000.	.0030325	.0033747	.0032869	.
2290000.	.0019701	.0021008	.0020427	.
3290000.	.0032704	.0035671	.0033900	.
4290000.	.0055373	.0051096	.0052298	.
5290000.	.0047340	.0046386	.0044610	.
6290000.	.0018806	.0025069	.0023633	.
7290000.	.0008349	.0011748	.0011054	.
8290000.	.0031589	.0028525	.0030304	.
12290000.	.0013002	.0014184	.0013480	.
1300000.	.0000000	.0000000	.0000000	.
2300000.	.0000000	.0000000	.0000000	.
3300000.	.0000000	.0000000	.0000000	.
4300000.	.0000000	.0000000	.0000000	.
5300000.	.0000000	.0000000	.0000000	.
6300000.	.0000000	.0000000	.0000000	.
7300000.	.0000000	.0000000	.0000000	.
8300000.	.0001241	.0001169	.0001156	.
9300000.	.0004285	.0004121	.0003972	.
10300000.	.0000000	.0000000	.0000000	.
11300000.	.0000000	.0000000	.0000000	.
12300000.	.0000000	.0000000	.0000000	.
15300000.	.0000000	.0000000	.0000000	.
9231026.	.0000000	.0000000	.0000000	.

10230000.	.0000000	.0000000	.0000000	.	.	.
15230000.	.0000000	.0000000	.0000000	.	.	.
16230000.	.0000000	.0000000	.0000000	.	.	.
9240000.	.0000000	.0000000	.0000000	.	.	.
10240000.	.0000000	.0000000	.0000000	.	.	.
11240000.	.0000000	.0000000	.0000000	.	.	.
12240000.	.0000000	.0000000	.0000000	.	.	.
13240000.	.0000000	.0000000	.0000000	.	.	.
14240000.	.0000000	.0000000	.0000000	.	.	.
15240000.	.0000000	.0000000	.0000000	.	.	.
16240000.	.0000000	.0000000	.0000000	.	.	.
1250000.	.0000000	.0000000	.0000000	.	.	.
2250000.	.0000000	.0000000	.0000000	.	.	.
3250000.	.0000000	.0000000	.0000000	.	.	.
4250000.	.0000000	.0000000	.0000000	.	.	.
5250000.	.0000000	.0000000	.0000000	.	.	.
6250000.	.0000000	.0000000	.0000000	.	.	.
7250000.	.0000000	.0000000	.0000000	.	.	.
8250000.	.0000000	.0000000	.0000000	.	.	.
9250000.	.0000000	.0000000	.0000000	.	.	.
10250000.	.0000000	.0000000	.0000000	.	.	.
11250000.	.0000000	.0000000	.0000000	.	.	.
12250000.	.0000000	.0000000	.0000000	.	.	.
13250000.	.0000000	.0000000	.0000000	.	.	.
14250000.	.0000000	.0000000	.0000000	.	.	.
15250000.	.0000000	.0000000	.0000000	.	.	.
16250000.	.0000000	.0000000	.0000000	.	.	.
1260000.	.0000000	.0000000	.0000000	.	.	.
7260000.	.0000000	.0000000	.0000000	.	.	.
8260000.	.0000000	.0000000	.0000000	.	.	.
9260000.	.0000000	.0000000	.0000000	.	.	.
10260000.	.0000000	.0000000	.0000000	.	.	.
15260000.	.0000000	.0000000	.0000000	.	.	.
16260000.	.0000000	.0000000	.0000000	.	.	.
1360000.	.0000000	.0000000	.0000000	.	.	.
2360000.	.0000000	.0000000	.0000000	.	.	.
686572051.	.0295570	.0304870	.0301091	.	.	.

Revenue Forecasts

FORECAST OF CRUDE OIL PRODUCTION AND REVENUE
 1-65-012 VIRDEN - ROSELEA UNIT NO. 1 - ANALYSIS OF CROWN PARTICIPATION
 START PROJECT JULY 1, 1965 - TRACT FACTOR ON BASIS OF MIDDLE 6 MOS 1964
 RUN NO. 1A MARCH 1965

MO YEAR	E S T I M A T E D C O M P A N Y S H A R E				
	GROSS PROD.	NET PROD.	GROSS REVENUE	OPERATING EXPENSES	NET REVENUE
12 1965		6140	15320		15320
12 1966		5500	13720		13720
12 1967		7980	19910		19910
12 1968		14010	34950		34950
12 1969		17730	44240		44240
12 1970		18300	45660		45660
12 1971		18300	45660		45660
12 1972		18300	45660		45660
12 1973		18300	45660		45660
12 1974		18300	45660		45660
12 1975		17770	44340		44340
12 1976		16600	41420		41420
12 1977		14900	37180		37180
12 1978		13230	33010		33010
12 1979		11850	29570		29570
12 1980		10820	27000		27000
12 1981		10110	25220		25220
12 1982		9220	23000		23000
12 1983		8730	21780		21780
12 1984		8340	20810		20810
SUBTOTAL		264430	659770		659770
REMAINING		4550	11350		11350
TOTAL		268980	671120		671120

P.W. AT 10.000= 286120 P.W. AT 11.000= 266380 P.W. AT 15.000= 204440
 TOTAL PROD.= 9100000 CRUDE PRICE= 2.495 REMAINING DISCOUNT YEAR= 20
 PAYOUT 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000

E S T I M A T E D C O M P A N Y S H A R E				
WORK INT RESERVES	AVG ROY	TOTAL NET RESERVES	FAIR MARKET	
PERCENT	BARRELS	PERCENT	BARRELS	VALUE
PROVEN .00000	000.00000	2.95570	268980	
PROB. ADD. .00000	.00000	.00000		
OTHER				
TOTAL			268980	

FORECAST OF CRUDE OIL PRODUCTION AND REVENUE
 1-65-012 VIRDEN ROSELEA UNIT NO. 1 - ANALYSIS OF CROWN PARTICIPATION
 START PROJECT JULY 1, 1965 - TRACT FACTOR ON BASIS OF LAST 6 MOS 1964
 RUN NO. 18 MARCH, 1965

MO YEAR	E S T I M A T E D C O M P A N Y S H A R E				
	GROSS PRCD.	NET PROD.	GROSS REVENUE	OPERATING EXPENSES	+SALVAGE REVENUE AT 06.000
12 1965		6330	15790		15790 15330
12 1966		5670	14150		14150 12950
12 1967		8230	20530		20530 17710
12 1968		14450	36050		36050 29310
12 1969		18290	45630		45630 34970
12 1970		18880	47110		47110 34030
12 1971		18880	47110		47110 32080
12 1972		18880	47110		47110 30240
12 1973		18880	47110		47110 28500
12 1974		18880	47110		47110 26870
12 1975		18330	45730		45730 24580
12 1976		17120	42710		42710 21640
12 1977		15370	38350		38350 18320
12 1978		13650	34060		34060 15330
12 1979		12220	30490		30490 12940
12 1980		11160	27840		27840 11140
12 1981		10430	26020		26020 9810
12 1982		9510	23730		23730 8430
12 1983		9000	22460		22460 7520
12 1984		8600	21460		21460 6780
SUBTOTAL		272760	680550		680550 398480
REMAINING		4690	11700		11700 3590
TOTAL		277450	692250		692250 402070

P.W. AT 10.000= 295100 P.W. AT 11.000= 274780 P.W. AT 15.000= 210870
 TOTAL PRCD.= 9100000 CRUDE PRICE= 2.495 REMAINING DISCOUNT YEAR= 20
 PAYOUT 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000

E S T I M A T E D C O M P A N Y S H A R E				
WORK INT RESERVES	AVG ROY	TOTAL NET RESERVES	FAIR MARKET	
PERCENT	BARRELS	PERCENT	BARRELS	VALUE
PROVEN	.00000	000.00000	3.04870	277450
PROB. ADD.	.00000	.00000		
OTHER				
TOTAL				277450

1-65-012 VIRDEN - ROSELEA UNIT NO. 1 - ANALYSIS OF CROWN PARTICIPATION
 START PROJECT JAN. 1, 1966 - TRACT FACTOR ON BASIS OF MIDDLE 6 MOS 1964
 RUN NO. 2A MARCH, 1965

MO YEAR	E S T I M A T E D C O M P A N Y S H A R E				
	GROSS PROD.	NET PROD.	GROSS REVENUE	OPERATING EXPENSES	NET REVENUE AT 06.000
12 1965		6140	15320		15320
12 1966		5670	14150		14150
12 1967		6460	16120		16120
12 1968		10780	26900		26900
12 1969		16670	41590		41590
12 1970		18300	45660		45660
12 1971		18300	45660		45660
12 1972		18300	45660		45660
12 1973		18300	45660		45660
12 1974		18300	45660		45660
12 1975		18120	45210		45210
12 1976		17450	43540		43540
12 1977		15750	39300		39300
12 1978		14010	34950		34950
12 1979		12480	31140		31140
12 1980		11210	27970		27970
12 1981		10360	25850		25850
12 1982		9540	23800		23800
12 1983		8940	22310		22310
12 1984		8550	21330		21330
SUBTOTAL		263630	657780		657780
REMAINING		5330	13300		13300
TOTAL		268960	671080		671080

P.W. AT 10.000=	279560 P.W. AT 11.000=	259720 P.W. AT 15.000=	197710
TOTAL PROD.=	9100000 CRUDE PRICE=	2.495 REMAINING DISCOUNT YEAR=	20
PAYCUT 00/0000	00/0000	00/0000	00/0000

E S T I M A T E D C O M P A N Y S H A R E				
WORK INT RESERVES	AVG ROY	TOTAL NET RESERVES	FAIR MARKET	
PERCENT	BARRELS	PERCENT	BARRELS	VALUE
PROVEN	.00000	000.00000	2.95570	268960
PROB. ACC.	.00000	.00000		
OTHER				
TOTAL				268960

1-65-012 VIRDEN - ROSELEA UNIT NO. 1 - ANALYSIS OF CROWN PARTICIPATION
 FORECAST OF CRUDE OIL PRODUCTION AND REVENUE
 START PROJECT JAN. 1, 1966 - TRACT FACTOR ON BASIS OF LAST 6 MOS 1964
 RUN NO. 28 MARCH, 1965

MO YEAR	E S T I M A T E D C O M P A N Y S H A R E				
	GROSS PROD.	NET PROD.	GROSS REVENUE	OPERATING EXPENSES	+SALVAGE CAP.COST
					REVENUE AT 06.000
12 1965		6330	15790		15790
12 1966		5850	14600		14600
12 1967		6660	16620		16620
12 1968		11120	27740		27740
12 1969		17190	42890		42890
12 1970		18880	47110		47110
12 1971		18880	47110		47110
12 1972		18880	47110		47110
12 1973		18880	47110		47110
12 1974		18880	47110		47110
12 1975		18690	46630		46630
12 1976		18000	44910		44910
12 1977		16240	40520		40520
12 1978		14450	36050		36050
12 1979		12880	32140		32140
12 1980		11560	28840		28840
12 1981		10680	26650		26650
12 1982		9840	24550		24550
12 1983		9220	23000		23000
12 1984		8820	22010		22010

SUBTOTAL 271930 678490 678490 392190

REMAINING 5500 13720 13720 4210

TOTAL 277430 692210 692210 396400

P.W. AT 10.000= 288350 P.W. AT 11.000= 267890 P.W. AT 15.000= 203930

TOTAL PROD.= 9100000 CRUDE PRICE= 2.495 REMAINING DISCOUNT YEAR= 20

PAYOUT 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000

E S T I M A T E D C O M P A N Y S H A R E				
WORK INT RESERVES		AVG ROY		TOTAL NET RESERVES
PERCENT	BARRELS	PERCENT	BARRELS	FAIR MARKET VALUE
PROVEN	.00000	000.00000	3.04870	277430
PROB. ADD.	.00000	.00000		
OTHER				
TOTAL				277430

1-65-012 VIRDEN - ROSELEA UNIT NO. 1 - ANALYSIS OF CROWN PARTICIPATION
 START PROJECT JULY 1, 1966 - TRACT FACTOR ON BASIS OF MIDDLE 6 MOS 1964
 RUN NO. 3A MARCH, 1965

E S T I M A T E D C O M P A N Y S H A R E							
	GROSS PROD.	NET PROD.	GROSS REVENUE	OPERATING EXPENSES	CAP.COST +SALVAGE	NET REVENUE	PRES.WRTH AT 06.000
MO YEAR							
12 1965		6140	15320			15320	14870
12 1966		5750	14350			14350	13130
12 1967		5500	13720			13720	11830
12 1968		7980	19910			19910	16190
12 1969		14010	34950			34950	26790
12 1970		17730	44240			44240	31960
12 1971		18300	45660			45660	31090
12 1972		18300	45660			45660	29310
12 1973		18300	45660			45660	27630
12 1974		18300	45660			45660	26040
12 1975		18300	45660			45660	24540
12 1976		17770	44340			44340	22470
12 1977		16600	41420			41420	19780
12 1978		14900	37180			37180	16740
12 1979		13230	33010			33010	14010
12 1980		11850	29570			29570	11830
12 1981		10820	27000			27000	10180
12 1982		10110	25220			25220	8960
12 1983		9220	23000			23000	7700
12 1984		8730	21780			21780	6880
SUBTOTAL		261840	653310			653310	371930
REMAINING		7140	17810			17810	5460
TOTAL		268980	671120			671120	377390
P.W. AT 10.000= 271540 P.W. AT 11.000= 251610 P.W. AT 15.000= 189750							
TOTAL PROD.= 9100000 CRUDE PRICE= 2.495 REMAINING DISCOUNT YEAR= 20							
PAYOUT 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000							
E S T I M A T E D C O M P A N Y S H A R E							
WORK INT RESERVES		AVG ROY		TOTAL NET RESERVES FAIR MARKET			
PERCENT	BARRELS	PERCENT	BARRELS	PERCENT	BARRELS	VALUE	
PROVEN	.00000		000.00000	2.95570	268980		
PROB. ADD.	.00000		.00000	.00000			
OTHER							

FORECAST OF CRUDE OIL PRODUCTION AND REVENUE
 1-65-012 VIRDEN - ROSELEA UNIT NO. 1 - ANALYSIS OF CROWN PARTICIPATION
 START PROJECT JULY 1, 1966 - TRACT FACTOR ON BASIS OF LAST 6 MOS 1964
 RUN NO. 38 MARCH, 1965

MO YEAR	E S T I M A T E D C O M P A N Y S H A R E				
	GROSS PROD.	NET PROD.	GROSS REVENUE	OPERATING EXPENSES + SALVAGE	NET REVENUE AT 06.0000 PRES.WRTH
12 1965		6330	15790		15790 15330
12 1966		5930	14800		14800 13540
12 1967		5670	14150		14150 12210
12 1968		8230	20530		20530 16690
12 1969		14450	36050		36050 27630
12 1970		18290	45630		45630 32960
12 1971		18880	47110		47110 32080
12 1972		18880	47110		47110 30240
12 1973		18880	47110		47110 28500
12 1974		18880	47110		47110 26870
12 1975		18880	47110		47110 25320
12 1976		18330	45730		45730 23170
12 1977		17120	42710		42710 20400
12 1978		15370	38350		38350 17260
12 1979		13650	34060		34060 14450
12 1980		12220	30490		30490 12200
12 1981		11160	27840		27840 10500
12 1982		10430	26020		26020 9250
12 1983		9510	23730		23730 7950
12 1984		9000	22460		22460 7090
SUBTOTAL		270090	673890		673890 383640

REMAINING	7370	18390	18390	5640
TOTAL	277460	692280	692280	389280

P.W. AT 10.000= 280060 P.W. AT 11.000= 259540 P.W. AT 15.000= 195710
 TOTAL PROD.= 910000 CRUDE PRICE= 2.495 REMAINING DISCOUNT YEAR= 20
 PAYCUT 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000

E S T I M A T E D C O M P A N Y S H A R E				
WORK INT RESERVES		Avg ROY	TOTAL NET RESERVES	
PERCENT	BARRELS	PERCENT	PERCENT	BARRELS VALUE
PROVEN	00000	000.00000	3.04870	277460
PROB. ADD.	00000	00000	00000	
OTHER				
TOTAL				277460

FORECAST OF CRUDE OIL PRODUCTION AND REVENUE
1-65-012 VIRDEN - ROSELEA UNIT NO. 1 - ANALYSIS OF CROWN PARTICIPATION
START PROJECT JAN 1, 1967 - TRACT FACTOR ON BASIS OF MIDDLE 6 MOS 1964
RUN NO. 4A MARCH, 1965

MO YEAR	E S T I M A T E D C O M P A N Y S H A R E					PRES. WRTH
	GROSS PROD.	NET PROD.	GROSS REVENUE	OPERATING EXPENSES	CAP. COST + SALVAGE	NET REVENUE AT 06.000
12 1965		6140	15320			15320
12 1966		5820	14520			14520
12 1967		5670	14150			14150
12 1968		6460	16120			16120
12 1969		10780	26900			26900
12 1970		16670	41590			41590
12 1971		18300	45660			45660
12 1972		18300	45660			45660
12 1973		18300	45660			45660
12 1974		18300	45660			45660
12 1975		18300	45660			45660
12 1976		18120	45210			45210
12 1977		17450	43540			43540
12 1978		15750	39300			39300
12 1979		14010	34950			34950
12 1980		12480	31140			31140
12 1981		11210	27970			27970
12 1982		10360	25850			25850
12 1983		9540	23800			23800
12 1984		8940	22310			22310
SUBTOTAL		260900	650970			650970
REMAINING		8060	20110			20110
TOTAL		268960	671080			671080
P.W. AT 10.000= 265730 P.W. AT 11.000= 245770 P.W. AT 15.000= 184090						
TOTAL PROD.= 910000 CRUDE PRICE= 2.495 REMAINING DISCOUNT YEAR= 20						
PAYCUT 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000						

E S T I M A T E D C O M P A N Y S H A R E							
	WORK INT RESERVES		AVG ROY		TOTAL NET RESERVES		FAIR MARKET
	PERCENT	BARRELS	PERCENT	BARRELS	PERCENT	BARRELS	VALUE
PROVEN	.00000		000.00000		2.95570	268960	
PROB. ACC.	.00000		.00000		.00000		
OTHER							

FORECAST OF CRUDE OIL PRODUCTION AND REVENUE
 1-65-012 VIRDEN - ROSELEA UNIT NO. 1 - ANALYSIS OF CROWN PARTICIPATION
 START PROJECT JAN 1, 1967 - TRACT FACTOR ON BASIS OF LAST 6 MOS 1964
 RUN NO. 48 MARCH, 1965

E S T I M A T E D C O M P A N Y S H A R E									
MO YEAR	GROSS	NET	GROSS	OPERATING	CAP.COST	NET	PRES.WRTH		
	PROD.	PROD.	REVENUE	EXPENSES	+SALVAGE	REVENUE AT 06.000			
12 1965		6330	15790			15790	15330		
12 1966		6000	14970			14970	13700		
12 1967		5850	14600			14600	12590		
12 1968		6660	16620			16620	13510		
12 1969		11120	27740			27740	21260		
12 1970		17190	42890			42890	30980		
12 1971		18880	47110			47110	32080		
12 1972		18880	47110			47110	30240		
12 1973		18880	47110			47110	28500		
12 1974		18880	47110			47110	26870		
12 1975		18880	47110			47110	25320		
12 1976		18690	46630			46630	23630		
12 1977		18000	44910			44910	21450		
12 1978		16240	40520			40520	18240		
12 1979		14450	36050			36050	15300		
12 1980		12880	32140			32140	12860		
12 1981		11560	28840			28840	10870		
12 1982		10680	26650			26650	9470		
12 1983		9840	24550			24550	8220		
12 1984		9220	23000			23000	7260		
SUBTOTAL			269110	671450		671450	377680		
REMAINING			8320	20760		20760	6360		
TOTAL			277430	692210		692210	384040		

P.W. AT 10.000= 274060 P.W. AT 11.000= 253510 P.W. AT 15.000= 189870
 TOTAL PROD.= 9100000 CRUDE PRICE= 2.495 REMAINING DISCOUNT YEAR= 20
 PAYOUT 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000

E S T I M A T E D C O M P A N Y S H A R E									
WORK INT RESERVES		AVG ROY		TOTAL NET RESERVES		FAIR MARKET			
PERCENT	BARRELS	PERCENT	BARRELS	PERCENT	BARRELS	PERCENT	BARRELS	VALUE	
PROVEN	.00000		000.00000	3.04870	277430				
PROB. ADD.	.00000		.00000						
OTHER									

TOTAL 277430

FORECAST OF CRUDE OIL PRODUCTION AND REVENUE
VIRDEN ROSELEA UNIT NO. 1 - ANALYSIS OF TOTAL UNIT
START PROJECT JULY 1, 1965
MARCH, 1965

1-65-012

RUN NO. 5A

MO YEAR	E S T I M A T E D C O M P A N Y S H A R E						PRES. WORTH
	GROSS PROD.	NET PROD.	GROSS REVENUE	OPERATING EXPENSES	CAP. COST + SALVAGE	NET REVENUE AT 06.000	
12 1965	207600	181650	453220	83040	350000	20180	19590
12 1966	186000	162750	406060	74400	100000	231660	212000
12 1967	270000	236250	589440	108000	50000	431440	372160
12 1968	474000	414750	1034800	189600		845200	687220
12 1969	600000	525000	1309880	240000		1069880	819970
12 1970	619200	541800	1351790	278640		1073150	775270
12 1971	619200	541800	1351790	309600		1042190	709680
12 1972	619200	541800	1351790	340560		1011230	649070
12 1973	619200	541800	1351790	371520		980270	593080
12 1974	619200	541800	1351790	402480		949310	541380
12 1975	601200	526050	1312490	420840		891650	479310
12 1976	561600	491400	1226040	421200		804840	407810
12 1977	504000	441000	1100300	403200		697100	332940
12 1978	447600	391650	977170	380460		596710	268630
12 1979	400800	350700	875000	360720		514280	218230
12 1980	366000	320250	799020	366000		433020	173200
12 1981	342000	299250	746630	376200		370430	139660
12 1982	312000	273000	681140	374400		306740	109010
12 1983	295200	258300	644460	383760		260700	87330
12 1984	282000	246750	615640	408900		206740	65280

SUBTOTAL 8946000 7827750 19530240 6293520 500000 12736720 7660820

REMAINING 154000 134750 336200 269500 66700 20450

TOTAL 9100000 7962500 19866440 6563020 500000 12803420 7681270

P.W. AT 10.000= 5698580 P.W. AT 11.000= 5313120 P.W. AT 15.000= 4081680

TOTAL PRCD.= 9100000 CRUDE PRICE= 2.495 REMAINING DISCOUNT YEAR= 20

PAYOUT 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000

E S T I M A T E D C O M P A N Y S H A R E						TOTAL NET RESERVES FAIR MARKET	
WORK INT RESERVES		AVG ROY		TOTAL NET RESERVES		FAIR MARKET	
PERCENT	BARRELS	PERCENT	PERCENT	PERCENT	BARRELS	VALUE	VALUE
PROVEN	100.00000	9100000	12.50000	87.50000	7962500		
PROB. ACC.	.00000						
OTHER							

7962500

9100000

TOTAL

1-65-012
 FORECAST OF CRUDE OIL PRODUCTION AND REVENUE
 VIRIDEN - ROSELEA UNIT NO. 1 - ANALYSIS OF TOTAL UNIT
 START PROJECT JAN 1, 1966
 RUN NO. 58 MARCH, 1965

MO YEAR	E S T I M A T E D C O M P A N Y S H A R E					
	GROSS PROD.	NET PROD.	GROSS REVENUE	OPERATING EXPENSES	CAP. COST + SALVAGE	NET REVENUE AT 06.000
12 1965	207600	181650	453220	83040	100000	270180
12 1966	192000	168000	419160	76800	300000	42360
12 1967	218400	191100	476790	87360	75000	314430
12 1968	364800	319200	796400	145920	25000	625480
12 1969	564000	493500	1231280	225600		1005680
12 1970	619200	541800	1351790	278640		1073150
12 1971	619200	541800	1351790	309600		1042190
12 1972	619200	541800	1351790	340560		1011230
12 1973	619200	541800	1351790	371520		980270
12 1974	619200	541800	1351790	402480		949310
12 1975	613200	536550	1338690	429240		909450
12 1976	590400	516600	1288920	442800		846120
12 1977	532800	466200	1163170	426240		736930
12 1978	474000	414750	1034800	402900		631900
12 1979	422400	369600	922150	380160		541990
12 1980	379200	331800	827840	379200		448640
12 1981	350400	306600	764970	385440		379530
12 1982	322800	282450	704710	387360		317350
12 1983	302400	264600	660180	393120		267060
12 1984	289200	253050	631360	419340		212020

SURPLUS 8919600 7804650 19472590 6367320 500000 12605270 7495870

REMAINING 180400 157850 393840 315700 78140 23950

TOTAL 9100000 7962500 19866430 6683020 500000 12683410 7519820

P.W. AT 10.000= 5542310 P.W. AT 11.000= 5160130 P.W. AT 15.000= 3945810

TOTAL PROD.= 9100000 CRUDE PRICE= 2.495 REMAINING DISCOUNT YEAR= 20

PAYCUT 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000

E S T I M A T E D C O M P A N Y S H A R E					
WORK INT RESERVES		AVG ROY		TOTAL NET RESERVES FAIR MARKET	
PERCENT	BARRELS	PERCENT	PERCENT	BARRELS	VALUE
PROVEN	100.00000	9100000	12.50000	87.50000	7962500
PROB. ACC.	.00000				
OTHER	.00000				
TOTAL		9100000			7962500

1-65-012
 FORECAST OF CRUDE OIL PRODUCTION AND REVENUE
 VIRDEN - ROSELEA UNIT NO. 1 ANALYSIS OF TOTAL UNIT
 START PROJECT JULY 1, 1966
 RUN NO. 5C
 MARCH, 1965

MO YEAR	E S T I M A T E D C O M P A N Y S H A R E					
	GROSS PROD.	NET PROD.	GROSS REVENUE	OPERATING EXPENSES	CAP. COST + SALVAGE	NET REVENUE AT 06.000
12 1965	207600	181650	453220	83040		370180
12 1966	194400	170100	424400	77760	350000	-3360
12 1967	186000	162750	406060	74400	100000	231660
12 1968	270000	236250	589440	108000	50000	431440
12 1969	474000	414750	1034800	189600		845200
12 1970	600000	525000	1309880	270000		1039880
12 1971	619200	541800	1351790	309600		1042190
12 1972	619200	541800	1351790	340560		1011230
12 1973	619200	541800	1351790	371520		980270
12 1974	619200	541800	1351790	402480		949310
12 1975	619200	541800	1351790	433440		918350
12 1976	601200	526050	1312490	450900		861590
12 1977	561600	491400	1226040	449280		776760
12 1978	504000	441000	1100300	428400		671900
12 1979	447600	391650	977170	402840		574330
12 1980	400800	350700	875000	400800		474200
12 1981	366000	320250	799020	402600		396420
12 1982	342000	299250	746630	410400		336230
12 1983	312000	273000	681140	405600		275540
12 1984	295200	258300	644460	428040		216420

SUBTOTAL 8858400 7751100 19339000 6439260 500000 12399740 7265830

REMAINING 241600 211400 527440 422800 104640 32080

TOTAL 9100000 7962500 19866440 6862060 500000 12504380 7297910

P.W. AT 10.000= 5329230 P.W. AT 11.000= 4951280 P.W. AT 15.000= 3757810

TOTAL PROD.= 9100000 CRUDE PRICE= 2.495 REMAINING DISCOUNT YEAR= 20

PAYOUT 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000

E S T I M A T E D C O M P A N Y S H A R E					
WORK INT RESERVES		AVG ROY		TOTAL NET RESERVES	
PERCENT	BARRELS	PERCENT	PERCENT	BARRELS	FAIR MARKET VALUE
100.00000	9100000	12.50000	87.50000	7962500	
PROB. ADD.	.00000				
OTHER	.00000				
TOTAL	9100000			7962500	

1-65-012
 FORECAST OF CRUDE OIL PRODUCTION AND REVENUE
 VIRDEN - ROSELEA UNIT NO. 1 - ANALYSIS OF TOTAL UNIT
 START PROJECT JAN 1, 1967
 RUN NO. 50
 MARCH, 1965

E S T I M A T E D C O M P A N Y S H A R E									
MO YEAR	GROSS		NET		GROSS		NET		PRES. WRTM
	PROD.	PROD.	PROD.	PROD.	REVENUE	OPERATING	EXPENSES	+SALVAGE	
12 1965	207600	181650	453220	83040	370180	359400			
12 1966	196800	172200	429640	78720	100000	229630			
12 1967	192000	168000	419160	76800	300000	36540			
12 1968	218400	191100	476790	87360	75000	255660			
12 1969	364800	319200	796400	145920	25000	479380			
12 1970	564000	493500	1231280	253800		706150			
12 1971	619200	541800	1351790	309600	1042190	709680			
12 1972	619200	541800	1351790	340560	1011230	649070			
12 1973	619200	541800	1351790	371520	980270	593080			
12 1974	619200	541800	1351790	402480	949310	541380			
12 1975	619200	541800	1351790	433440	918350	493660			
12 1976	613200	536550	1338690	459900	878790	445280			
12 1977	590400	516600	1288920	472320	816600	390010			
12 1978	532800	466200	1163170	452880	710290	319760			
12 1979	474000	414750	1034800	426600	608200	258090			
12 1980	422400	369600	922150	422400	499750	199890			
12 1981	379200	331800	827840	417120	410720	154850			
12 1982	350400	306600	764970	420480	344490	122430			
12 1983	322800	282450	704710	419640	285070	95490			
12 1984	302400	264600	660180	438480	221700	70000			

SUBTOTAL	8827200	7723800	19270870	6513060	500000	12257810	7109430		
REMAINING	272800	238700	595560	409200		186360	57130		
TOTAL	9100000	7962500	19866430	6922260	500000	12444170	7166560		

P.W. AT 10.000= 5199100 P.W. AT 11.000= 4824020 P.W. AT 15.000= 3646960
 TOTAL PROD.= 9100000 CRUDE PRICE= 2.495 REMAINING DISCOUNT YEAR= 20
 PAYOUT 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000 00/0000

E S T I M A T E D C O M P A N Y S H A R E									
WORK	INT RESERVES		AVG ROY		TOTAL NET RESERVES		FAIR MARKET		VALUE
	PERCENT	BARRELS	PERCENT	PERCENT	PERCENT	BARRELS	PERCENT	BARRELS	
PROVEN	100.00000	9100000	12.50000	87.50000	7962500				
PROB. ADD.	.00000		.00000						
OTHER									



Chevron Canada Resources

P.O. Box 100, Virden, Manitoba R0M 2C0
Phone (204) 748-1334 Fax (204) 748-6762

December 31, 1991

1991 Summary of Injection Well Packer Installations

Department of Energy and Mines
Petroleum Branch
Attention: Mr. John Fox
555 - 330 Graham Avenue
Winnipeg, Manitoba
R3C 4E3

Dear Sir:

In reply to your request letter dated 1985-12-09, Chevron installed packers in thirteen (13) injection wells in 1991. These were as follows:

<u>NVSU #1</u>	2-10-11-26	<u>VRU #1</u>	15-23-10-26
	12-10-11-26		11-25-10-26
	10-21-11-26		3-26-10-26
	14-13-11-26		
	14-23-11-26	<u>VRU #3</u>	14-2-10-25
	6-24-11-26		8-2-10-26
	14-33-11-26		14-1-10-26

Since implementation (1986-01), a total of 68 injection wells have had packers installed, which is above the proposed target of 10 per year. Twelve (12) packer installations are planned for 1992.

The following are the number of wells in each unit that do not yet have packers installed:

NVSU #1	7
Daly #3	1 (Suspended well)
VRU #1	4
VRU #3	<u>10</u>
Total	22

If further information is required, please contact Mr. Kevin Anderson at 748-1334 or at the letterhead address.

Yours truly,

for

J. E. CAUSGROVE, P. Eng.
Area Superintendent
Virden

JEC/tjs

Manitoba



Energy and Mines

Petroleum

555 — 330 Graham Avenue
Winnipeg, Manitoba, CANADA
R3C 4E3

(204) 945-6577

February 5, 1987

Chevron Canada Resources Limited
500 - 5th Avenue S.W.
CALGARY, Alberta
T2P 0L7

Attention: Mr. D. Schierman
Reservoir Engineer

Dear Doug:

Re: **Pressure Maintenance Operations - Virden Lodgepole B Pool**
Virden Roselea Unit No. 1
Virden Roselea Unit No. 2
Virden Roselea Unit No. 3

Enclosed is Oil and Natural Gas Conservation Board Order No. PM 55 authorizing pressure maintenance operations in the subject Units. This approval replaces, consolidates and standardizes previous approvals without altering the conditions of approval.

If you have any questions, please contact the undersigned (204) 945-6574.

Yours sincerely,

L.R. Dubreuil
Chief Petroleum Engineer
Petroleum Division

LRD:dah
encl

*File
VR Unit 1
Correspondence*

December 7, 1984

Chevron Canada Resources Limited
Box 100
Virden, Manitoba
R0M 2C0

Attention: Mr. C. G. Folden,
Area Supervisor

Dear Cal:

Re: North Virden Scallion Unit No. 1
Virden Roselea Unit No. 1

Enclosed herewith is a copy of Board Order No. 74A exempting wells in the subject Units from the maximum permissible rate restrictions of The Petroleum Drilling and Production Regulations, 1984.

Yours sincerely,

Original Signed by H. C. Moser

H. Clare Moser, P. Eng.
Director, Petroleum Branch

LRD/lk

Enclosure

THE REGULATIONS ACT

CERTIFICATE

I, Ian Haugh, Deputy Chairman of The Oil and Natural Gas Conservation Board, hereby certify that the attached regulation is the original Order:--

- (a) entitled The Oil and Natural Gas Conservation Board Order No. 74A
- (b) made pursuant to The Mines Act;
- (c) by The Oil and Natural Gas Conservation Board;
- (d) on the *23rd* day of *November* A.D. 1984;
- (e) approved by the Honourable the Minister of Energy and Mines on the *23rd* day of *November* A.D. 1984; and
- (f) which regulation comes into force on the day of filing with the Registrar of Regulations.

DATED this *28th* day of *November*, A.D. 1984

ORIGINAL SIGNED BY
IAN HAUGH

Ian Haugh
Deputy Chairman,
The Oil and Natural Gas
Conservation Board

Manitoba Regulation 258/84

THE OIL AND NATURAL GAS CONSERVATION BOARD

ORDER NO. 74A

An Order Pertaining to Maximum Permissible


Production Rates in the Virden Field

Made and Passed Pursuant to "The Mines Act", Cap. M160
of the Continuing Consolidation of the Statutes of Manitoba
by The Oil and Natural Gas Conservation Board of Manitoba

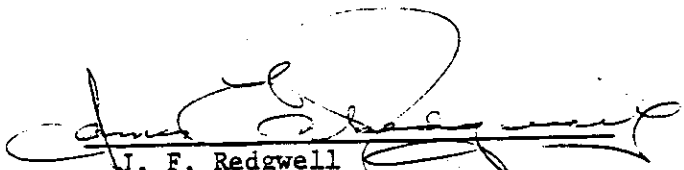
(Filed: 29 November 1984)

1. Until further Order, producing wells in the North Virden Scallion Unit No. 1 and the Virden Roselea Unit No. 1 shall be exempt from the maximum permissible rate restrictions of subsection 51(1) of The Petroleum Drilling and Production Regulations, 1984, being Manitoba Regulation 147/84.

Oil and Natural Gas Order No. 74A
made and passed this 23rd day
of November A.D., 1984 at the
City of Winnipeg, in the Province
of Manitoba, by The Oil and
Natural Gas Conservation Board.

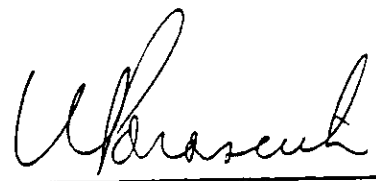


Ian Haugh
Deputy Chairman,
The Oil and Natural Gas
Conservation Board



J. F. Redgwell
Member,
The Oil and Natural Gas
Conservation Board

Approved:



Wilson D. Parasiuk
Minister of Energy and Mines

February 28, 1972

Chevron Standard Limited
400 Fifth Avenue S.W.
Calgary 1, Alberta

Attention: Mr. B. N. McLean

Dear Sir:

This acknowledges, with thanks, receipt of 4 copies each of the 1971 "Summary of Current and Cumulative Production and Injection Statistics" for the months of May 1971 and November 1971, for the North Virden Scallion and Virden-Roselea Units.

Yours very truly,

F. S. Gamey,
Reservoir Engineer.

FSG/h



Chevron Standard Limited

400 Fifth Avenue S.W., Calgary 1, Alberta

February 24, 1972

acknowledged

Department of Mines, Resources and
Environmental Management
The Oil and Natural Gas Conservation Board
Box 42
Legislative Building
Winnipeg 1, Manitoba

Attention: Mr. F. S. Gamey

Gentlemen:

Enclosed are ⁴two copies each of the 1971 "Summary of Current and Cumulative Production and Injection Statistics" for the months of May 1971 and November 1971, for the following Units operated by Chevron Standard Limited:

North Virden Scallion Unit No. 1
Virden-Roselea Unit No. 1
Virden-Roselea Unit No. 2
Virden-Roselea Unit No. 3

If further information is required, please contact Mr. B. N. McLean at the above letterhead address.

Yours very truly,

B. N. McLean
For J. G. TROWELL
Division Manager
Producing Department
Calgary Division

BNMcLean/dmc
Encl.

Dept. Mines, Resources and
Environmental Management

FEB 28 1972

PLATEAU ENGINEER
11 010

December 30, 1970

Mr. E. H. Gaudet, Chairman
North Virden Scallion Unit No. 1
Legal Committee,
Chevron Standard Limited,
400 Fifth Avenue S.W.,
Calgary 1, Alberta.

Re: Well Name Changes
Unit Enlargement - December 15/70 hearing

Dear Sir:

Enclosed herewith are the well name changes recorded for Gulf
and Canadian Reserve, for wells in the North Virden Scallion Unit #1.

Yours very truly,

F. S. Ganey,
Reservoir Engineer.

FSG/h



CHEVRON STANDARD LIMITED

Box 100
VIRDEN, Manitoba
October 26, 1967


Department of Mines and Natural Resources
Mines Branch
911 Norquay Building
401 York Avenue
WINNIPEG 1, Manitoba

ATTENTION: Mr. F. S. Gamey

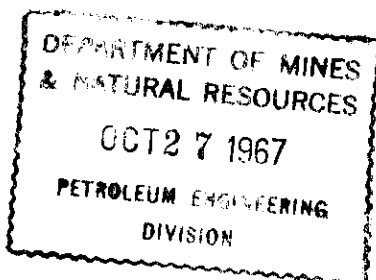
Dear Sir:

Would you please send me three copies of Unitization
Order No. 6 which covers the enlargement of Virden
Roselea Unit No. 1.

Yours truly,

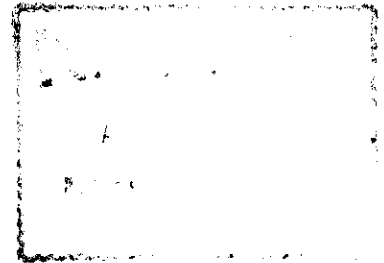

L. B. Brown, P. Eng.
Area Supervisor

LDB/baq



April 21, 1967

Mr. J.G. Crowell,
Division Superintendent,
Producing Department,
Calgary Division,
Chevron Standard Limited,
Medical Arts Building,
329A - 6th Avenue, S.W.,
Calgary, Alberta.



Dear Sir:

This will acknowledge with thanks, receipt of
three copies of each of the following:

- (a) Individual well performance plots to
December 31, 1966 for Virden-Roselea
Unit No.1 wells.
- (b) Individual well performance plots to
December 31, 1966 for North Virden
Scallion Unit No.1 wells.

Yours very truly,

M.J. Gobert
Assistant Deputy Minister.

MJG/js

c.c. Mr. F.S. Gamey.

Please send one copy of each to Rod McDaniel.

NOTE



CHEVRON STANDARD LIMITED

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

April 18, 1967

The Oil and Natural Gas Conservation Board
Department of Mines and Natural Resources
1010 Norquay Building
401 York Avenue
Winnipeg, Manitoba

Attention: Mr. M. J. Gobert

Dear Sir:

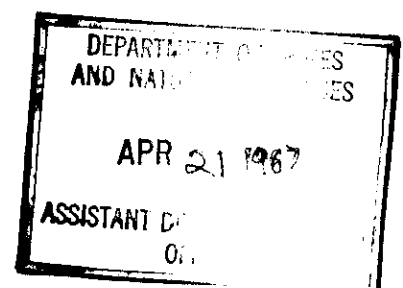
Enclosed please find three copies of each of the following:

- (a) Individual well performance plots to December 31, 1966 for Virden-Roselea Unit No. 1 wells.
- (b) Individual well performance plots to December 31, 1966 for North Virden Scallion Unit No. 1 wells.

Yours very truly,

J. G. TROWELL
Division Superintendent
Producing Department
Calgary Division

PP/cb
Encl.



November 23, 1966

F. S. Gamey

M. J. Gobert
Asst. Deputy Minister

VIRDEN-ROSELEA #1 (enlargement)

Pete Pizio informed by phone (Nov. 23/66) as to
error in production figures for Tract 14-21.

McDaniel was sent photostatic copies of data per-
taining to Tract participation factors, as out-
lined in the draft proposals sent to Operators.

November 23, 1966

Mr. R. R. McDaniel,
McDaniel Consultants (1965) Ltd.,
305 Humford Bldg.,
608 - 7th St. S.W.,
Calgary, Alta.

Re: Virden-Roselea Unit #1

Dear Rod:

Enclosed herewith, for your information, are photostatic copies of the data relating to tract participation for the proposed eleven-tract enlargement to the above Unit.

This was sent out November 4th, 1966, by the Operating Committee to all Working Interest Owners in Unit #1.

Yours very truly,

F. S. Gamey,
Reservoir Engineer.

FSG/h

August 11, 1966

F. S. Ganey

The Oil & Natural Gas Conservation
Board

Att: J. S. Richards
M. J. Gobert

Phone call from R. Park, Chevron Standard - August 10, 1966

Re: Virden-Roselea Unit #1 PM 4
Virden-Roselea Unit #2 PM 5

Letter of application is to be submitted to the Board to delete the requirements, under PM 4 and PM 5, whereby production charts for each well are required with the report when submitted for each half of the calendar year.

They request permission to submit a written report only for the mid-year, and will include the well curves with the year-end report.

The Board approved a similar request in the case of the North Virden Unit #1. (See copies attached)

Possibly the wording of the PM order for the pending Virden-Roselea Unit #1 could be changed when it is gasetted, or could be drafted at the final hearing on this Unit.

Their reasons for this request are because of the high cost of reproduction and printing of the well graphs.



CHEVRON STANDARD LIMITED

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

Acknowledged

March 4, 1966

Department of Mines and Natural Resources
Mines Branch
Petroleum Engineering Division
911 Norquay Building
401 York Avenue
Winnipeg 1, Manitoba

Attention: Mr. F. S. Gamey
Reservoir Geologist

Dear Sir:

Enclosed please find two copies of the Progress Report for 1965
for Virden-Roselea Unit No. 1.

Yours very truly,

for J. G. TROWELL
Division Superintendent
Producing Department
Calgary Division

PP/cb
Encl.

Mar 7

COPY

December 17, 1965.

Mr. S. A. McCrae,
Chairman, Virden-Roselea Unit No. 1.,
Legal Committee,
The California Standard Company,
Medical Arts Building,
329A - 6th Avenue, S.W.,
CALGARY, Alberta.

Dear Sir:

Re: Virden Roselea Unit #1
Working Interest Owners
Kranz Oil Limited

Please advise if the interest held by Kranz Oil Limited, in the above Unit, has been transferred to KMT Oils.

The Manitoba Gazette, dated November 27, 1965, lists the registration of KMT Oils as registered in Manitoba as of November 12, 1965, with Kye Trout, Jr., and Mary Stockton Trout as partners, and place of business being the S $\frac{1}{2}$ & NE $\frac{1}{4}$ 20-10-25 WPM. The address of the company is not reported.

Kranz Oils Limited has made no royalty payments since the commencement of Unit operations in July 1965. Outstanding Royalty to October 30, 1965, amounts to \$155.83.

Yours very truly,

JSR/or

J. S. Richards
J. S. Richards,
Director of Mines.

c. c. to: Mr. M. J. Gobert,
Assistant Deputy Minister.

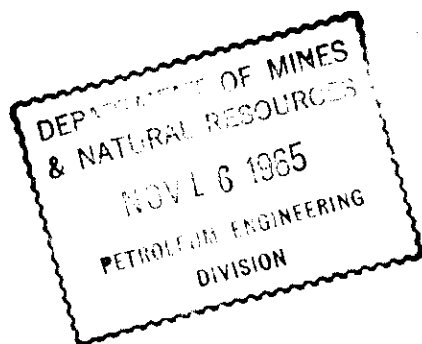
Mr. F. S. Gamey,
Reservoir Engineer.

DEPARTMENT OF MINES
& NATURAL RESOURCES

JAN 31 1966

PETROLEUM ENGINEERING
DIVISION

COPY



70 Calder Crescent
Regina, Saskatchewan
November 4, 1965

Mr. R. R. Mahaffey
Chevron Standard Limited
Calgary, Alberta

Dear Sir:

Enclosed is copy of Frontenac cheque #101 of September 28, 1965, in the amount of \$262.50 to Walter Co. Pearn, Virden, for payment of surface-lease rental on the following lands for the period 1965-66:

(a) 10-21 oil well location, 2 acres roadway included (due payment date Sept. 21, 1965)	\$ 100.00
(b) 9-21 battery, 1.25 acres (due payment date Sept. 21, 1965)	62.50
(c) 5-21 oil well location 2 acres roadway included (due payment date Oct. 19, 1965)	100.00
	<hr/>
	\$ 262.50

These properties are part of the Virden-Roselea Unit #1. Frontenac therefore claims a credit to the extent of \$262.50.

Sincerely,

p. e. to: **Mr. M. J. Gobert,**
Assistant Deputy Minister.

B. J. Bintner
per: Frontenac Petroleum Co. Ltd.

cc: Mr. J. G. Cowan, Chairman,
The Oil and Natural Gas Conservation Board,
Department of Mines and Natural Resources,
42 Legislative Building,
Winnipeg 1, Manitoba.

OCT 19 1965

DIRECTOR OF MINES

CHEVRON STANDARD LIMITED

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA

October 15, 1965

Virden-Roselea Unit No. 1
Our File No. 54,499-1

Mr. Kye Trout, Jr.,
Oil and Gas Properties - Oil Producer,
P.O. Box 1376,
Bismarck, North Dakota,
U. S. A. 58502

Dear Sir:

We have your October 7, 1965 letter for acknowledgement.

Chevron has no desire to invoke the lien provisions of the Plan for Unit Operation if such action can be reasonably avoided. However, you will appreciate we cannot allow these outstanding amounts to go unpaid indefinitely and certainly it would appear that you have had more than ample time within which to clean up any legal difficulties that might have arisen in connection with your purchase of the Kranz interests. A further consideration here is that the operating revenues attributable to the Kranz interests from July 1, 1965 to October 1, 1965 approximate \$4,700.00 and we are wondering why these monies could not have been applied on the outstanding Kranz indebtedness and then taken into account in your final closing with Kranz.

It does not appear reasonable to expect Chevron Standard Limited to finance these matters indefinitely or without some interest return and accordingly we are going to have to insist that this indebtedness be liquidated in accordance with our October 4, 1965 letter and we would ask that this matter have the attention of either yourself or Kranz Oil Ltd. by return.

Thanking you for your cooperation.

Yours very truly,


R. R. MAHAFFEY

SAM/ps

cc: Mr. J. G. Cowan ✓
Kranz Oil Ltd.

OCT 8 - 1965

DIRECTOR OF MINES

October 7, 1965
70 Calder Crescent
Regina, Saskatchewan

Mr. R. R. Mahaffey
Chevron Standard Limited
Calgary, Alberta

Dear Sir:

In reply to your letter of October 4, 1965, concerning Frontenac Petroleum Co. Ltd. payment of share of current expense involved in Unitization and Water-flood of the Virden-Roselea Unit #1: The arrears of the Frontenac contribution to the Unit to date as set out in your letter thereto are stated as \$6,174.20 plus \$234.29 interest for total of \$6,408.49. However, I wish to point out that Frontenac has in reality already contributed considerably to this indebtedness:

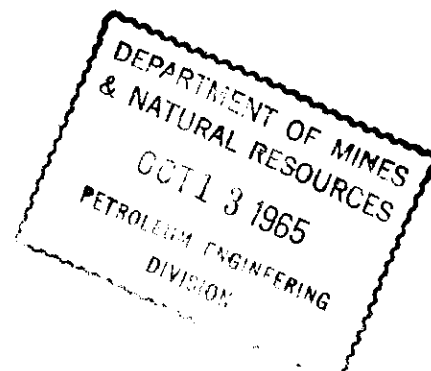
(1) one water-disposal well 9-21-10-25-1, equipment valuation thereof	\$4,601.00
(2) on behalf of the Unit, property tax July to Dec., 1965, to Municipality of Woodworth, Man. (Sept. 28, 1965)	387.09
(3) on behalf of the Unit, lease-rental 1965-6, for L.S.D.'s 5-21, 10-21 and battery 9-21 all of T10 R25 W1 to Walter C. Pearn, Virden (Sept. 28, 1965)	262.50
(4) cash token-payment invoice #J11845 (Oct. 2, 1965)	14.34
Total	\$ 5,264.93
Balance due	\$1,143.56

Your revision, therefore, of the Frontenac position would be appreciated.

Sincerely,

B. J. Bintner
per: Frontenac Petroleum Co. Ltd.

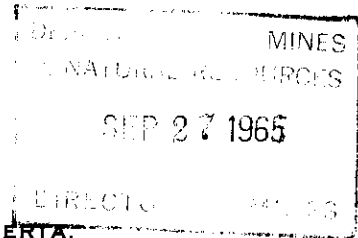
cc: Mr. J. G. Cowan, Chairman,
The Oil and Natural Gas Conservation Board,
Department of Mines and Natural Resources,
42 Legislative Building,
Winnipeg 1, Manitoba





CHEVRON STANDARD LIMITED

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.



September 24, 1965

REGISTERED

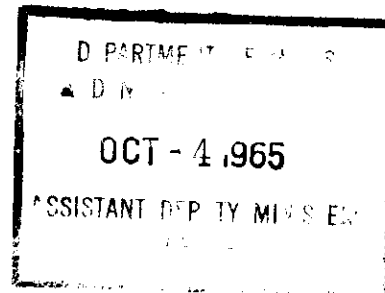
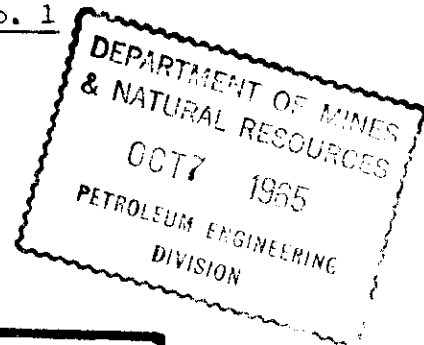
Viriden-Roselea Unit No. 1

Continental Leaseholds Limited,
#102, 633 - Eighth Avenue S.W.,
Calgary, Alberta.

Kranz Oil Ltd.,
653 - Fourth Avenue North,
Fargo, North Dakota,
U.S.A.

Shannon Oils Ltd.,
Box 14, Norwood,
Winnipeg 6, Manitoba.

Charles Milton Frazier,
c/o Baldwin E. Martz,
212 - 2nd Street S.W.,
Minot, North Dakota,
U.S.A.



Gentlemen:

You will recall that at the organization meeting of the Viriden-Roselea Unit No. 1 Operating Committee of June 28, 1965, action on the Titles Committee report, dated June 25, 1965, was deferred because certain of the Working Interest Owners had not yet furnished the Titles Committee with the required title information.

Please note Part XIV of the "Plan for Unit Operation" provides inter alia that the Unit Operator shall sell the Unitized Substances allocable to any Tract, the title to which is not approved by the Operating Committee, and pay the proceeds, less expenses, to a Trust Company. We had expected that you would meet the Titles Committee requirements some time ago and are disappointed that you have apparently not yet do so.


In view of Part XIV of the Plan it is incumbent upon Unit Operator to take some early action on this matter and accordingly please be advised that it is our intention to circulate a ballot in the early part

Continental Leaseholds Limited
Kranz Oil Ltd.
Shannon Oils Ltd.
Charles Milton Frazier

September 24, 1965

of October for approval of titles in accordance with the recommendations of the Titles Committee to that date. Please be further advised that any Tracts that are not approved at that time may be subject to further action by Unit Operator pursuant to Part XIV of the Plan so that any Working Interest Owner who has not yet furnished title documentation is urged to do so if he wishes to avoid this action.

Yours very truly,


S. A. McCRAE, Chairman,
Virden-Roselea Unit No. 1
Legal Committee.

cc: Mr. J. G. Cowan,
Chairman, The Oil and Natural
Gas Conservation Board.

All other Working Interest Owners.

5-14-65
J. A. McCrae

THE CALIFORNIA STANDARD COMPANY

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

RECEIVED
JUL 21 1965

LEGAL DIV.

ORGANIZATION MEETING
OF THE VIRDEN-ROSELEA UNIT NO. 1
OPERATING COMMITTEE

An organization meeting of the Virden-Roselea Unit No. 1 Operating Committee was held in The California Standard Company's Sixth Floor Board Room, Medical Arts Building, Calgary, Alberta, at 1:30 P.M., Mountain Standard Time, on Monday, June 28, 1965.

The attendance was as follows:

<u>Working Interest Owner</u>	<u>Representative</u>	<u>Participating Interest</u>
The California Standard Company	J. G. Trowell L. D. Brown P. Pisio S. A. McCrae J. C. McDowell D. R. Henderson	51.75764
Canadian Export Gas & Oil Ltd.	H. M. Doyle	22.98107
Continental Leaseholds Ltd.	E. A. Miller	6.67911
Frontenac Petroleum Co. Ltd.	B. J. Bintner	3.22551
K & N Oil Development	A. A. Niesner A. Krattenthaler	0.35063
Rundle Petroleums Ltd.	R. F. Atkinson	0.64514
Sun Oil Company	T. E. Huta	3.98547
Teck Corporation Limited *	G. S. Horne	<u>4.11111</u>
Total Participating Interest		93.73598

* Present at commencement of Agenda Item No. 4.

By registered letter, dated June 21, 1965, Mr. J. G. Trowell was designated to act as Chairman Pro Tem, of the organization meeting by the Chairman of the Conservation Board.

Mr. J. G. Trowell noted that only 89% of the Working Interest Owners have notified the Chairman of the Conservation Board of their representative and alternate to the Operating Committee. The remaining 11% are requested to designate their representatives as soon as possible.

AGENDA ITEM NO. 1: - Appoint a Unit Operator.

On motion by Mr. R. F. Atkinson and seconded by Mr. H. M. Doyle, "BE IT RESOLVED by and between the Virden-Roselea Unit No. 1 Working Interest Owners, that The California Standard Company is hereby

appointed as Unit Operator in accordance with Part V, Clause 5.03(c) of the Plan for Unit Operation Governing The Unitized Management Operation and Further Development of Virden-Roselea Unit No. 1, AND FURTHER BE IT RESOLVED, that the representative of The California Standard Company shall act as Chairman of the Operating Committee."

The motion was unanimously carried by all representatives present.

Mr. J. G. Trowell turned the meeting over to Mr. L. D. Brown, of The California Standard Company, the representative of The California Standard Company who acted as Chairman of the meeting.

AGENDA ITEM NO. 2: - Appoint an Inventory Committee.

On motion by Mr. L. D. Brown and seconded by Mr. E. A. Miller,

"BE IT RESOLVED by and between the Virden-Roselea Unit No. 1 Working Interest Owners, that an Inventory Committee is hereby appointed to perform the functions as set out in Part X, Clause 10.04, of the Plan for Unit Operation Governing the Unitized Management Operation and Further Development of Virden-Roselea Unit No. 1 AND FURTHER BE IT RESOLVED, that controllable material be as listed in the price catalogue published by the Petroleum Accounts Society of Western Canada."

The motion was unanimously carried by all representatives present.

It was agreed that the representatives of the three largest Working Interest Owners be on the Inventory Committee. The representatives for this Committee are as follows:

Continental	- Bill Helgeson
Canadian Export	- Walter Welgan
California Standard	- Jim Smart

The representative of California Standard will chair the Inventory Committee.

All Working Interest Owners were requested to forward their inventories to the Unit Operator as soon as possible.

On motion by Mr. H. M. Doyle and seconded by Mr. R. F. Atkinson,

"BE IT RESOLVED by and between the Virden-Roselea Unit No. 1 Working Interest Owners, that the representatives on the Inventory Committee be remunerated at \$35 per day per man plus reasonable travelling and living expenses."

The motion was unanimously carried by all representatives present.

AGENDA ITEM NO. 3: Automobile Insurance Coverage.

On motion by Mr. E. A. Miller and seconded by Mr. A. A. Niesner,

"BE IT RESOLVED by and between the Virden-Roselea Unit No. 1 Working Interest Owners, that The California Standard Company, as Unit Operator, purchase for the Common Account the following:

- (A) Automobile public liability and property damage insurance on the Unit Operators' owned vehicles for the following limits;

\$100,000 - for any one person injured or killed,

\$300,000 - for two or more persons injured or killed,

\$100,000 - for damage to properties of others,

- (B) Non-owned automobile liability insurance - same limits as set out for the Unit Operators' owned vehicles."

The motion was unanimously carried by all representatives present.

AGENDA ITEM NO. 4: Titles Committee Report.

The attached memorandum, dated June 25, 1965, from the Chairman of the Titles Committee to the Chairman of the Legal Committee, was circulated at the meeting.

After a cursory review, it was agreed to defer consideration of the Titles Report until the report is completed. Any Working Interest Owners who have not supplied information are requested to do so as soon as possible.

AGENDA ITEM NO. 5: Review Water Injection and Battery Consolidation Plans.

Various phases of the water flood project were reviewed. Although the entire scheme is at different stages of completion, no difficulties are anticipated to start injecting water at an early date. There appear to be sufficient monies remaining to complete the construction work for the water flood project in the previously approved capital expenditure appropriations.

In addition to the water flood project, the Unit Operator proposes to consolidate the twelve existing batteries to three batteries to facilitate operations and maintenance. It is estimated that \$25,000 will be required for consolidation. The Unit Operator will request approval by mail ballot.

AGENDA ITEM NO. 6: Review the Procedure for Taking Over Unit Operations.

The procedure for taking over operations of the Virden Roselea Unit No. 1, as attached to the Notice of Meeting, was reviewed by the Chairman.

Although the representatives agreed that the take over procedure was acceptable, it was realized that some complications will be experienced because certain production facilities outside the unitized area service Unit wells and will not become Unit facilities.

After some discussion on various aspects of production facilities, the following motion was made by Mr. R. F. Atkinson and seconded by Mr. B. J. Bintner,

"BE IT RESOLVED by and between the Virden-Roselea Unit No. 1 Working Interest Owners, that The California Standard Company, as Unit Operator, is hereby authorized to enter into agreements with the operators of outside facilities to handle Unit production, and with an operator of non-Unit outside wells which are being produced into Unit facilities in order to reasonably maintain Unit production."

The motion was carried by all representatives present.

AGENDA ITEM NO. 7: Other Business.

The Chairman requested that all Working Interest Owners forward the following information to:

Mr. L. D. Brown
The California Standard Company
Box 100
Virden, Manitoba.

1. Copies of their complete well files.
2. All easements, rights-of-way, surface leases, rights-of-entry, and other surface rights which it holds and are required in connection with Unit operations together with all particulars, including rentals payable, if any.

If any of the above data is not required for Unit operations, the Unit Operator will return this data to the Working Interest Owner.

Since there was no further business, the meeting adjourned at 4:20 P.M.

L. D. Brown
for L. D. Brown, Chairman
Virden-Roselea Unit No. 1
Operating Committee

2241

RECEIVED
JUN 28 1965
LEGAL DIV.

MEMORANDUM

Calgary, Alberta
June 25, 1965

MR. S. A. McCRAE
Chairman, Legal Committee
Virdon Rosolou Unit No.1:

As requested the Titles Committee has attempted to examine the titles to the tracts within the Unit.

1. We have received no information from the following:

<u>Working Interest Owner</u>	<u>Tract</u>
Kranz Oil Ltd.	8-20, 9-20, 15-20 and 16-20.
Continental Leaseholds Ltd.	11-21, 12-21 and 13-21.
Charles Milton Frazier (as to an undivided 25% interest only)	9-23, 10-23 and 15-23.
Shannon Oils Ltd.	2-36.

I am today writing to these working interest owners again asking that they submit the required material.


2. The titles to the other tracts within the Unit appear to be in order except for minor defects which the Committee is attempting to have corrected and except for the following:

(a) Certain persons claim working interests under Continental Leaseholds Ltd. and Frontenac Petroleum Co.Ltd. The documents of title submitted by Frontenac Petroleum Co.Ltd. do not reveal that these people do in fact have a working interest and the definition of the working interest in the proposed plan and in the Mines Act of Manitoba does not appear to allow such an interpretation. As noted above we have received no information from Continental Leaseholds Ltd. and therefore cannot express a definite opinion.

(b) The working interest of Adam Niesner and Andrew Krattenthaler in tract 1-36 is, according to the solicitor's opinion received, clouded by an agree-

ment between Great Northland Development and The Toronto General Trust Corporation dated October 15, 1957, which contains a drilling commitment and reassignment provision. While a well has been drilled the Toronto General Trust Corporation has disputed that the commitment has been fulfilled. The solicitor's opinion states, however, that any litigation in connection with this property would probably be resolved in favour of Messrs. Niesner and Krattenthaler. You will note that the working interest owners are Adam Niesner and Andrew Krattenthaler and not K. & N. Development. In the light of the cloud on the title it is suggested that this tract be indemnified.

The Titles Committee has not met for the purpose of finally approving all of the titles and this cannot be done until all the material is received. This report, therefore, is subject to final approval by the entire Committee.



E. H. CAUDET,
Chairman, Titles Committee
Virden Roselea Unit No.1

INTER-DEPARTMENTAL MEMORANDUM

FROM M.J. Gobert
Asst. Deputy Minister



PROVINCE
OF
MANITOBA

DATE May 31, 1965

TO J. S. Richards
Director of Mines

SUBJECT Proposed Virden-Roselea Unit No. 1

DEPARTMENT OF MINES
& NATURAL RESOURCES

JUN- 1 1965

DIRECTOR OF MINES

Attached, herewith, are:

- (a) Suggested Recommendation-to-Council authorizing the Board to approve the Plan,
- (b) Proposed Unitization Order No. 3.
- (c) Proposed Order No. PM 4
- (d) Proposed Order No. 40 A

I would suggest that the above be prepared at your early convenience. If we can be of assistance, possibly in typing of the Orders, please ask.

As you are aware, (b), (c) and (d) above require Board approval, approval of the Minister and posting as Manitoba Regulations.

I would further suggest that on June 11th, if all goes well, the Recommendation to Council be placed on the agenda for the June 16th meeting of Cabinet.

You will note that the Plan does not form a part of nor is it a Schedule to the Recommendation to Council.

The Premier's office has suggested that we try it this way, supported by a fairly complete Cabinet Paper.

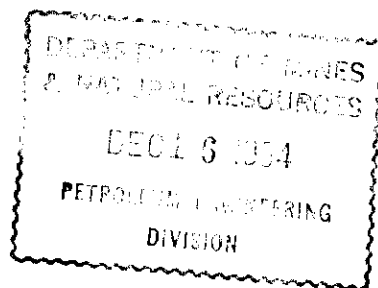
With respect to Unitization Order No. 3, 4 copies of the Plan are required and I have written to the Company for these.

In addition to the above, a copy of a Government Notice, being Schedules "A" and "B", is attached, together with copy of memo transmitting this to the Queen's Printer.

A proper copy should be prepared for the Chairman's signature.

P-3

COPY



December 15, 1964.

Mr. S. A. McCrae,
Chairman, Legal Committee,
Virden Roselea Unit No. 1,
The California Standard Company,
Medical Arts Building,
329A - 6 Avenue, S.W.,
Calgary, Alberta.

Dear Mr. McCrae:

In response to the request contained in your letter of November 18th, we are returning, herewith, the "Material Classification Manual", prepared by The Petroleum Accountants Society of Oklahoma, and "Controllable Material" Price Catalogue, by Petroleum Accountants Society of Western Canada.

It is suggested that, if, as, and when a hearing is held in respect to a plan to unitise part of the Virden Roselea Field, that these publications be filed as exhibits.

Yours very truly,

J. S. Richards,
Deputy Chairman.

JSR:db

Encls. 2.

Registered Mail.

c. c. to: Mr. J. G. Cowan, Q.C., Chairman.

Mr. M. J. Gobert, Member.

Mr. F. S. Gamey, Reservoir Geologist.



THE CALIFORNIA STANDARD COMPANY

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

R. R. MAHAFFEY
GENERAL ATTORNEY

REGISTERED

November 18th, 1964.

Mr. M. J. Gobert, Member
Oil And Natural Gas Conservation Board,
Box 43,
Legislative Building,
Winnipeg 1, Manitoba.

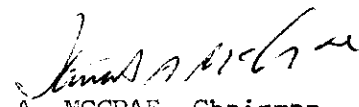
Dear Sir:

Re: Virden Roselea Unitization

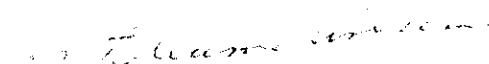
As you requested during our discussion of last week, I am enclosing herewith a copy of the 'Material Classification Manual' prepared by The Petroleum Accountants Society of Oklahoma, and the 'Controllable Material' Price Catalogue by Petroleum Accountants Society of Western Canada, for your consideration.

Our Accounting Division has advised me that the enclosures are the only copies they have, and accordingly it would be appreciated if, in due course, you would return same to this office.

Yours very truly,


S. A. MCCRAE, Chairman
Legal Committee
Virden Roselea Unit No. 1

SAM:bc
Encs.(2)


Orig. to: Mr. F. S. Ganey, Reservoir Geologist, Petroleum Division. with above enclosures.
D.C. -Mr. J. G. Cowan, D.C., Deputy Minister of Public Utilities.
Mr. M. J. Gobert, Assistant Deputy Minister.
Director of Mines.

December 15, 1964

Re: Draft V.E. 2
Proposed Virden-Roselea Unit No. 1

It is my understanding that the Working Interest Owners and the Royalty Owners will be approached for their consent to

Mr. S. A. McCrae .. 2

the Plan, after the hearing.

I suggest, for your consideration, that the Plan which the Owners consent to must be identical, in all respects, to the Plan embodied in any order which might be issued by the Board subsequent to a hearing.

With this in mind, it would appear necessary that arrangements should be made for the reproduction, immediately after the hearing, in the required quantity of the Plan which the Board might approve, in principle, for execution by the Working Interest Owners and the Royalty Owners.

Your comments will be appreciated.

Yours very truly,


M.J. Gobert,
Asst. Deputy Minister.

cc: J. G. Cowan, Q.C.

J. S. Richards

F. S. Gamey ✓

COPY

DEPARTMENT OF MINES
& NATURAL RESOURCES

DEC 9 1964

PETROLEUM ENGINEERING
DIVISION

December 8, 1964.

Mr. S. A. McCrae,
Chairman, Legal Committee,
Virden Roselea Unit No. 1,
The California Standard Company,
Medical Arts Building,
329A - 6 Av., S.W.,
Calgary,
Alberta.

Dear Mr. McCrae:

In accordance with our verbal understanding,
the following is a list of recent well name changes within the
proposed Virden Roselea Unit No. 1:

Part XXI

Wells Delivered to Unit Operator Pursuant to Part I

License No. 744

CDN-SUP Grasby Virden 9-26-10-26
to
Rundle Grasby Virden 9-26-10-26

License No. 755

CDN-SUP Grasby Virden 10-26-10-26
to
Rundle Grasby Virden 10-26-10-26

License No. 769

CDN-SUP Grasby Virden 15-26-10-26
to
Rundle Grasby Virden 15-26-10-26

2--Mr. S. A. McCrae,
Chairman, Legal Committee,
Virden Rosales Unit No. 1

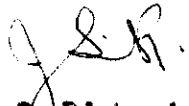
December 8, 1964.

License No. 756

CDN-SUP Grasby Virden 16-26-10-26
to
Rundle Grasby Virden 16-26-10-26

This department has received photostat copies of agreements covering acquisition of Canadian Superior holdings by Jennings Drilling Company, and agreement between Jennings and Rundle Petroleum Ltd., whereby Rundle is designated operator of the wells.

Yours very truly,


J. S. Richards,
Director of Mines.

JSR:db

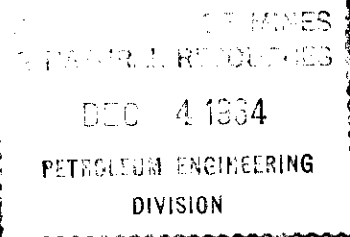
c. c. to: Mr. C. F. Kirkvold, District Superintendent,
The California Standard Company,
Box 100,
Virden, Manitoba.

Mr. J. G. Cowan, Q.C.,
Chairman.

Mr. M. J. Gobert,
Member.

Mr. F. S. Gamey,
Reservoir Geologist.

COPY



December 4, 1964.

Mr. S. A. McGee,
 Chairman, Legal Committee,
 Virden Rosalia Unit No. 1,
 The California Standard Company,
 Medical Arts Building,
 329A - 6 Av., S.W.,
 Calgary,
 Alberta.

Dear Mr. McGee:

Many thanks for your letter of November 30th, relative to the draft "Plan for Unit Operation Governing The Unitized Management Operation and Further Development of Virden Rosalia Unit No. 1". We will forward our further comments as soon as possible.

The following are two additional apparent differences in data in respect to "Months on Production", which we have discovered:

<u>Tract</u>	<u>On Production</u>	<u>1st Month Production</u>	<u>2nd Month Production</u>	<u>Effective Date</u>	<u>No. Months On Production (Branch Data)</u>	<u>Calstan Data</u>
7-21-10-25 (Frontenac)	May 23, 1961.	336	695 ($\frac{1}{2}$ = 347)	June, 1961.	40	41
11-30-10-25 (Cogo)	Feb. 18, 1955.	68	Nil	Feb., 1961.	116	113

Yours very truly,

J. S. Richards,
 Director of Mines.

JSR:db

c. c. to: Mr. C. F. Kirkvold, District Superintendent,
 The California Standard Company, Box 100, Virden, Manitoba.
 Mr. J. G. Cowan, Q.C., Chairman.
 Mr. M. J. Gobert, Member.
 Mr. F. S. Gamey, Reservoir Geologist.

December 2, 1964.

F.S. Gamey,

J.S. Richards,

Petroleum Engineering Division.

Director.

Virden-Roselea Unit No. 1 - Difference in data for 'Months On Production'

<u>Tract</u>	<u>On Production</u>	<u>1st. Month Production</u>	<u>2nd. Month Production</u>	<u>Effective Date</u>	<u>No. Months On Production (Branch Data)</u>	<u>Calstat Data</u>
7-21-10-25 (Frontenac)	May 23, 1961	336	695 ($\frac{1}{2}$ = 347)	June, 1961	40	41
11-30-10-25 (Cego)	Feb. 13, 1955	68	Nil	Feb., 1961	116	113



F.S. Gamey,
Reservoir Geologist.

FSG/mg



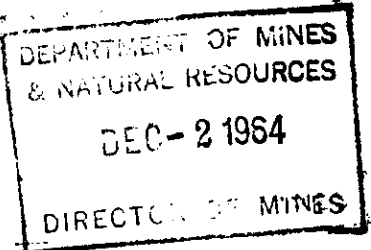
THE CALIFORNIA STANDARD COMPANY

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

R. R. MAHAFFEY
GENERAL ATTORNEY

November 30th, 1964.

Mr. J.S. Richards,
Director of Mines,
Department of Mines and Natural Resources,
Mines Branch,
901 Norquay Building,
401 York Avenue,
Winnipeg 1, Manitoba.



Dear Mr. Richards:

Re: Proposed Virden Roselea
Unitization.

We have your letter of November 27, 1964 for acknowledgement, and have referred same to our Virden Office for checking and reply, and expect that they will be in touch with you very shortly.

You will recall that when Mr. Kirkvold and myself reviewed the draft "Plan For Unit Operation Governing The Unitized Management Operation and Further Development of Virden Roselea Unit No. 1" with yourself and Mr. Gobert, it was agreed that any further comment your Department might have would be forwarded by mail. We have not heard from you in this connection, and would appreciate a reply at your early convenience so that the 'Plan' can be finalized and our formal submission for unitization filed with the Oil And Natural Gas Conservation Board.

Yours very truly,

Stewart A. McCrae
S. A. MCCRAE, Chairman,
Legal Committee
Virden Roselea Unit No. 1.

SAM/bo

p. c. to: Mr. M. J. Gobert, Member.

Mr. F. S. Gasey, Reservoir Geologist.