

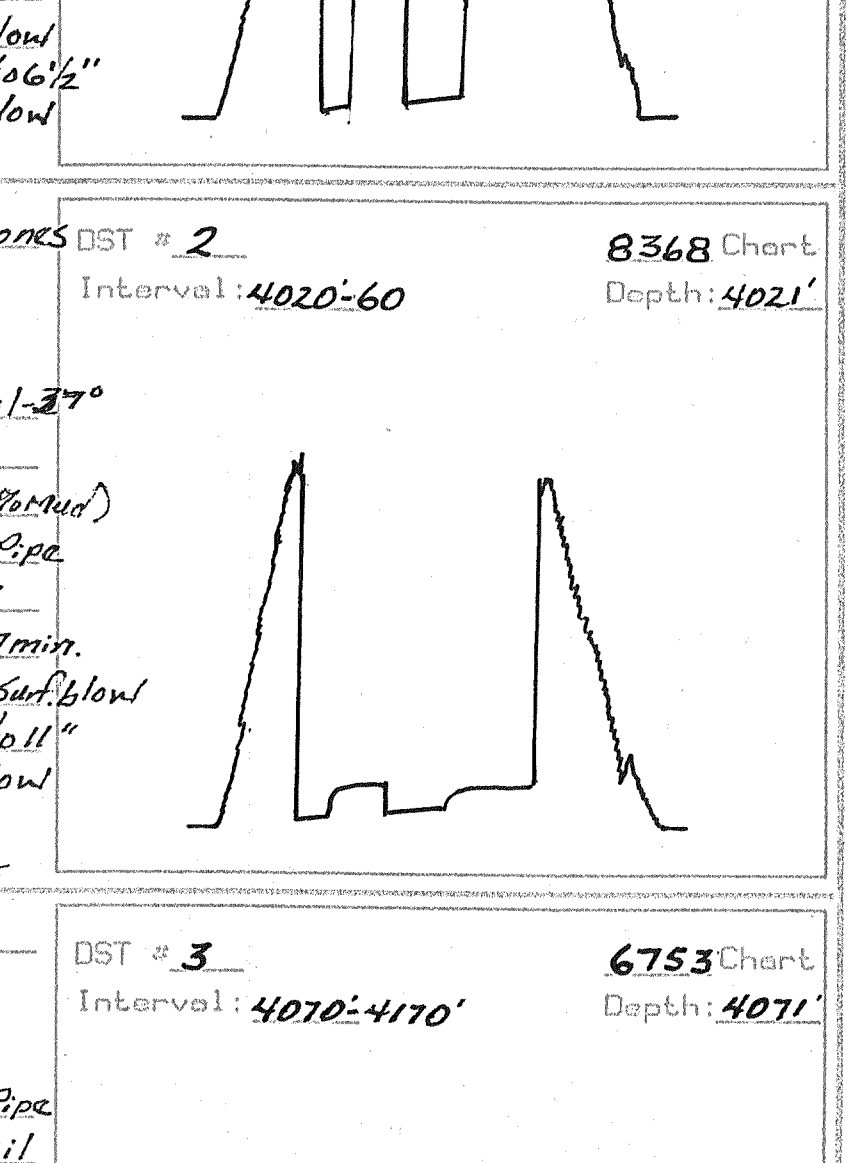
PRELIMS TIME AND SHUT LOG
 PREPARED BY: **Multi-Well Drilling Co., Inc.**
 FIELD: **Albion**
 LOCATION: **1400 15th St. N.E. #204 (K&S)**
 COUNTY: **Albion**
 DATE: **2/23/75**
 TIME: **11:45**
 SURVEY: **N 1/4**
 SECTION: **15-15-31-00-00-00**
 WELL NO.: **23**
 ELEVATIONS: **2925'**
 DEPTH: **2920'**

EXPLORATION DEPARTMENT: **3620'**
 L.D.P. DEPTH: **3300'**
 FORMATION: **Chemical/Balmier**
 OPERATOR: **Multi-Well Drilling Co., Inc.**
 CONTRACT NO.: **23000**
 DATE: **2/23/75**

FORMATION	THICKNESS (ft)	PERCENTAGE (%)	REMARKS
Toprock Fm	3757 (-828)	3753 (-828)	-7'
Headbrn Shale	3700 (-885)	3696 (-885)	-6'
Stark Shale	3640 (-942)	3635 (-942)	-5'
Lawrence Shale	3580 (-1000)	3575 (-1000)	-5'
Scott Ls.	3520 (-1057)	3515 (-1057)	-5'
Lawrence Shale	3460 (-1114)	3455 (-1114)	-5'
Stark Shale	3400 (-1171)	3395 (-1171)	-5'
Lawrence Shale	3340 (-1228)	3335 (-1228)	-5'
Stark Shale	3280 (-1285)	3275 (-1285)	-5'
Lawrence Shale	3220 (-1342)	3215 (-1342)	-5'
Stark Shale	3160 (-1399)	3155 (-1399)	-5'
Lawrence Shale	3100 (-1456)	3095 (-1456)	-5'
Stark Shale	3040 (-1513)	3035 (-1513)	-5'
Lawrence Shale	2980 (-1570)	2975 (-1570)	-5'
Stark Shale	2920 (-1627)	2915 (-1627)	-5'
Lawrence Shale	2860 (-1684)	2855 (-1684)	-5'
Stark Shale	2800 (-1741)	2795 (-1741)	-5'
Lawrence Shale	2740 (-1798)	2735 (-1798)	-5'
Stark Shale	2680 (-1855)	2675 (-1855)	-5'
Lawrence Shale	2620 (-1912)	2615 (-1912)	-5'
Stark Shale	2560 (-1969)	2555 (-1969)	-5'
Lawrence Shale	2500 (-2026)	2495 (-2026)	-5'
Stark Shale	2440 (-2083)	2435 (-2083)	-5'
Lawrence Shale	2380 (-2140)	2375 (-2140)	-5'
Stark Shale	2320 (-2197)	2315 (-2197)	-5'
Lawrence Shale	2260 (-2254)	2255 (-2254)	-5'
Stark Shale	2200 (-2311)	2195 (-2311)	-5'
Lawrence Shale	2140 (-2368)	2135 (-2368)	-5'
Stark Shale	2080 (-2425)	2075 (-2425)	-5'
Lawrence Shale	2020 (-2482)	2015 (-2482)	-5'
Stark Shale	1960 (-2539)	1955 (-2539)	-5'
Lawrence Shale	1900 (-2596)	1895 (-2596)	-5'
Stark Shale	1840 (-2653)	1835 (-2653)	-5'
Lawrence Shale	1780 (-2710)	1775 (-2710)	-5'
Stark Shale	1720 (-2767)	1715 (-2767)	-5'
Lawrence Shale	1660 (-2824)	1655 (-2824)	-5'
Stark Shale	1600 (-2881)	1595 (-2881)	-5'
Lawrence Shale	1540 (-2938)	1535 (-2938)	-5'
Stark Shale	1480 (-2995)	1475 (-2995)	-5'
Lawrence Shale	1420 (-3052)	1415 (-3052)	-5'
Stark Shale	1360 (-3109)	1355 (-3109)	-5'
Lawrence Shale	1300 (-3166)	1295 (-3166)	-5'
Stark Shale	1240 (-3223)	1235 (-3223)	-5'
Lawrence Shale	1180 (-3280)	1175 (-3280)	-5'
Stark Shale	1120 (-3337)	1115 (-3337)	-5'
Lawrence Shale	1060 (-3394)	1055 (-3394)	-5'
Stark Shale	1000 (-3451)	995 (-3451)	-5'
Lawrence Shale	940 (-3508)	935 (-3508)	-5'
Stark Shale	880 (-3565)	875 (-3565)	-5'
Lawrence Shale	820 (-3622)	815 (-3622)	-5'
Stark Shale	760 (-3679)	755 (-3679)	-5'
Lawrence Shale	700 (-3736)	695 (-3736)	-5'
Stark Shale	640 (-3793)	635 (-3793)	-5'
Lawrence Shale	580 (-3850)	575 (-3850)	-5'
Stark Shale	520 (-3907)	515 (-3907)	-5'
Lawrence Shale	460 (-3964)	455 (-3964)	-5'
Stark Shale	400 (-4021)	395 (-4021)	-5'
Lawrence Shale	340 (-4078)	335 (-4078)	-5'
Stark Shale	280 (-4135)	275 (-4135)	-5'
Lawrence Shale	220 (-4192)	215 (-4192)	-5'
Stark Shale	160 (-4249)	155 (-4249)	-5'
Lawrence Shale	100 (-4306)	95 (-4306)	-5'
Stark Shale	40 (-4363)	35 (-4363)	-5'

DST # 1 ZONE: **Toronto, Lansing A & B Zones**
 INTERVAL: **3922-4005'**

Pressure:	Time	Press.	RECOVERY
1. Initial Hydrostatic		1928 psi	126' Oil/Water Cut Mud
2. Initial Flow: Start	0	22 psi	(10% oil, 30% water)
3. Initial Flow: End	30	72 psi	126' Oil spotted water mud
4. Initial Shut-in: End	60	123 psi	(oil spots, 90% water)
5. Final Flow: Start	0	84 psi	Total Recovery 252'
6. Final Flow: End	60	132 psi	Blow Description:
7. Final Shut-in: End	90	1239 psi	I.F. - built to 4"
8. Final Hydrostatic		1916 psi	I.S.I. - No blow

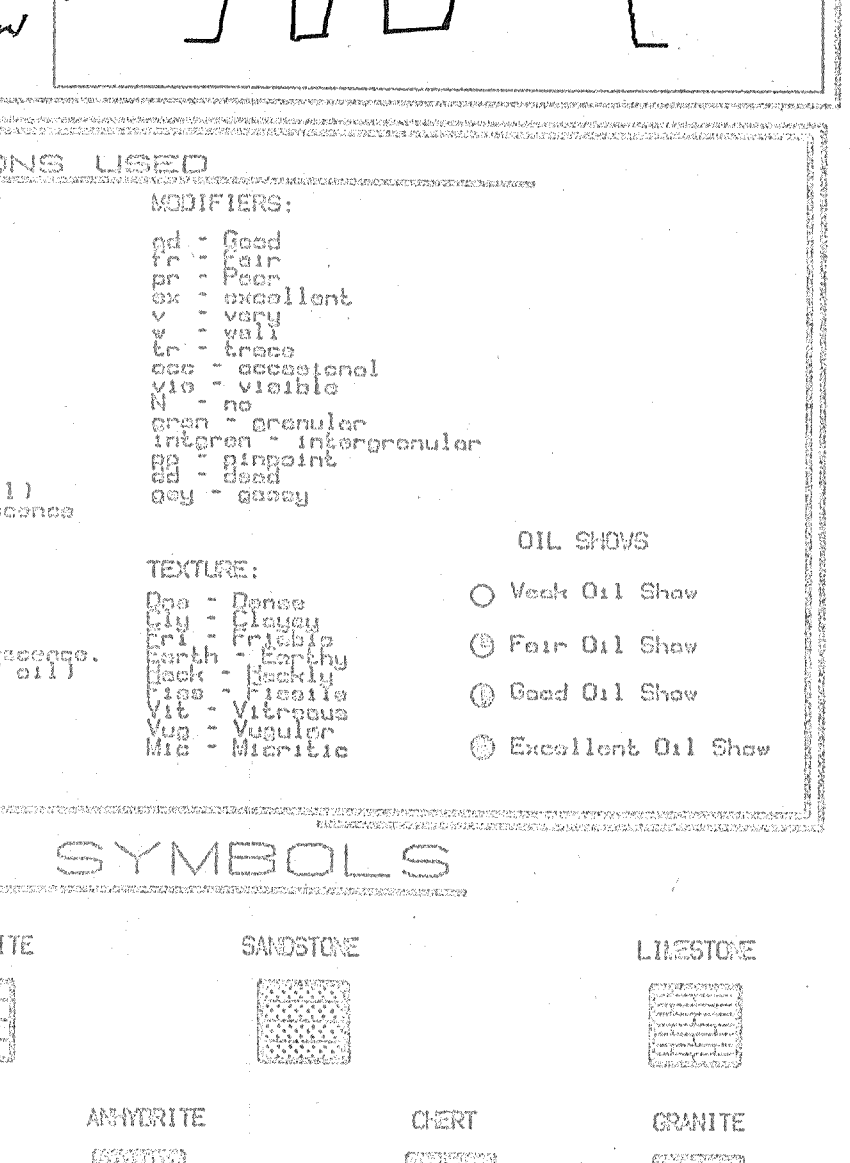


GHT: **1209F**
 Rv: **102 @ 66°F**
 Chlorides 80,000 ppm

DST # 1 6753 Chart
 Interval: 3922-4005'
 Depth: 3923'

DST # 2 ZONE: **Lansing-Kansas L & F Zones**
 INTERVAL: **4020-4060'**

Pressure:	Time	Press.	RECOVERY
1. Initial Hydrostatic		1997 psi	169' Clean Oil - 29°
2. Initial Flow: Start	0	22 psi	126' Oil/Water
3. Initial Flow: End	30	63 psi	(85% water, 15% mud)
4. Initial Shut-in: End	60	253 psi	126' Oil in Pipe
5. Final Flow: Start	0	68 psi	Blow Desc:
6. Final Flow: End	60	104 psi	I.F. - B08 27 min
7. Final Shut-in: End	90	243 psi	I.S.I. - No blow
8. Final Hydrostatic		1964 psi	F.F. - built to 11"

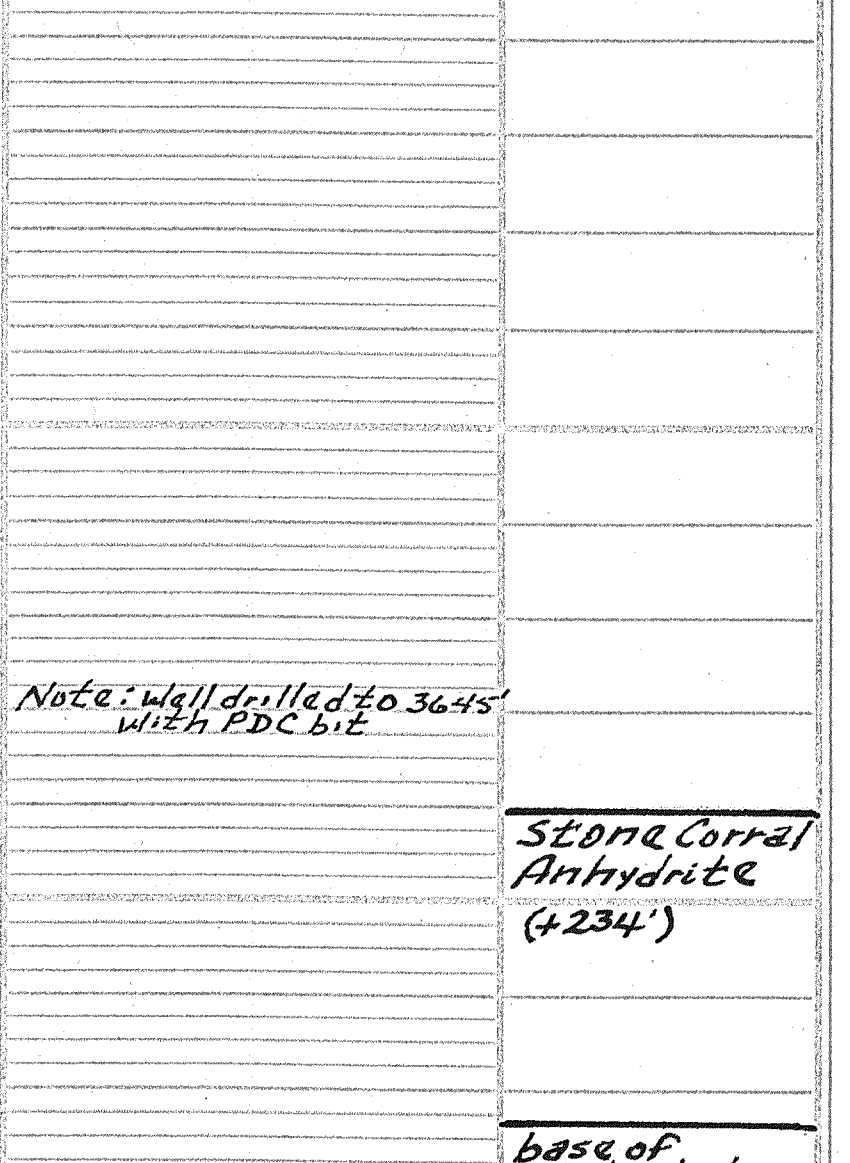


GHT: **1192F**
 Rv: **22 @ 87°F**
 Chlorides 27,000 ppm 31° gravity @ 60°F

DST # 2 8368 Chart
 Interval: 4020-60
 Depth: 4021'

DST # 3 ZONE: **L-KC H, J & K Zones**
 INTERVAL: **4070-4170'**

Pressure:	Time	Press.	RECOVERY
1. Initial Hydrostatic		2026 psi	473' Gas in Pipe
2. Initial Flow: Start	0	20 psi	126' Clean Oil
3. Initial Flow: End	30	43 psi	65' Oil Cut Mud
4. Initial Shut-in: End	60	407 psi	(30% oil)
5. Final Flow: Start	0	48 psi	32° gravity @ 60°F
6. Final Flow: End	60	74 psi	Blow Desc:
7. Final Shut-in: End	90	401 psi	I.F. - built to 8"
8. Final Hydrostatic		1931 psi	I.S.I. - No blow



GHT: **1212F**
 Rv: **1212F**
 F.F. - No blow

DST # 3 6753 Chart
 Interval: 4070-4170'
 Depth: 4071'

ROCK TYPES:	FABRIC:	MODIFIERS:	OIL SHOWS:
Shale	Fgn - Fine grained	sd - sand	○ Weak Oil Show
Sandstone	Vfg - Very fine grained	fr - fine	○ Fair Oil Show
Carbonaceous	Co - Carbonaceous	co - coal	○ Good Oil Show
Quartzite	Qz - Quartzite	qs - quartz	○ Excellent Oil Show
Siltstone	Sil - Siltstone	sl - silt	
Shale	Sh - Shale	sh - shale	
Sandstone	St - Sandstone	st - sandstone	
Carbonaceous	Ca - Carbonaceous	ca - carbonaceous	
Quartzite	Qz - Quartzite	qz - quartzite	
Siltstone	Sil - Siltstone	sil - siltstone	
Shale	Sh - Shale	sh - shale	
Sandstone	St - Sandstone	st - sandstone	
Carbonaceous	Ca - Carbonaceous	ca - carbonaceous	
Quartzite	Qz - Quartzite	qz - quartzite	
Siltstone	Sil - Siltstone	sil - siltstone	
Shale	Sh - Shale	sh - shale	
Sandstone	St - Sandstone	st - sandstone	
Carbonaceous	Ca - Carbonaceous	ca - carbonaceous	
Quartzite	Qz - Quartzite	qz - quartzite	
Siltstone	Sil - Siltstone	sil - siltstone	
Shale	Sh - Shale	sh - shale	
Sandstone	St - Sandstone	st - sandstone	
Carbonaceous	Ca - Carbonaceous	ca - carbonaceous	
Quartzite	Qz - Quartzite	qz - quartzite	
Siltstone	Sil - Siltstone	sil - siltstone	
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Sandstone	St - Sandstone	st - sandstone	
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Siltstone	Sil - Siltstone	sil - siltstone	
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Sandstone	St - Sandstone	st - sandstone	
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Sandstone	St - Sandstone	st - sandstone	
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Quartzite	Qz - Quartzite	qz - quartzite	
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Quartzite	Qz - Quartzite	qz - quartzite	
Siltstone	Sil - Siltstone	sil - siltstone	
Shale	Sh - Shale		