



WELL REPORT

Prepared for ~

FAIRFAX EXPLORATION, INC.

No. 2 Bullseye

540' FWL, 1560' FWL, Sec. 18,

T. 16 N. - R. 9 W.

MCKINLEY COUNTY, NEW MEXICO

— Wildcat —

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July 3, 1974

R E S U M E

OPERATOR: Fairfax Exploration, Inc.

WELL: No. 2 Bullseye

LOCATION: South Half of the Southwest [540' FSL, 1560' FWL]
Section 18, Township 16 North, Range 9 West

FIELD: Wildcat

COUNTY: McKinley

STATE: New Mexico

ELEVATION: 7244 Ground; 7249 Kelly Bushing

CASING: 8-5/8" Set @ 100' KB

HOLE SIZE: 6-1/4"

TOTAL DEPTH: 2209 by driller; 2213 by log

BOTTOMING FORMATION: Morrison

MUD: Fresh Gel Mud

SPUD: June 22, 1974

COMPLETED: Drilling operations completed June 29, 1974

CORES: None

DRILL STEM TESTS: Halliburton Services - No. 1 1810 - 1824

LOGS: Schlumberger: Induction-Electrical; Borehole Compensated Sonic; Formation Density, with Gamma Ray and Caliper

CONTRACTOR: Chesney Drilling Company, Rig No. 10

PRODUCTION: Attempted Completion - Dakota Sands

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DISCUSSION

Fairfax Exploration's No. 2 Bullseye was drilled as a wildcat test to evaluate the oil and/or gas potential of a large block of leases located south of the Hospah Field. The basis of the prospect was a photogeologic structure on the east side of a postulated fault. The prospect is enhanced by its analogous structural setting to the Hospah Oil Field. Dry holes, previously drilled around the location had reputed oil shows in the Post-Mancos sands, but the primary objective for the test was the Dakota "D" of Lower Cretaceous Age. The exact location of the No. 2 Bullseye was 540 feet from the south line and 1560 feet from the west line (approximately the South half of the Southwest) of Section 18, Township 16 North, Range 9 West, McKinley County, New Mexico.

The upper Cretaceous Crevasse Canyon (at a depth of 355 feet), the Hospah Sand (590 feet) and the Massive Gallup (989 feet) were well developed sands with good porosity, but no shows were observed in the samples.

The Dakota was encountered at a depth of 1804 feet [+5445 above Sea]. The datum places the Dakota 86 feet higher than it was found in the Ramsey Pet test (NW NE Sec. 13, 16N - 10W) and 144 feet higher to the Dakota found in the Davis Oil No. 1 Bullseye (SE NE Sec. 17, 16N - 9W). The Upper Dakota in the Fairfax test was a 55 foot sand with porosity exceeding 18%. The samples from this zone had spotty fluorescence and a weak oil cut in trichloroethylene. The samples also showed the sand to have a fair amount of clay fill. A drill stem test was run in the upper part of the interval. Mud with a trace of oil was recovered from the zone.

No other shows were noted in the samples, but the logs indicated the presence of a number of good porous sands in the Dakota Formation.

On the basis of the oil show in the upper Dakota and the numerous other favorable looking sands on the logs, the operators elected to run production casing and evaluate the potential zones through perforations.

This geologist is doubtful (on the basis of sample inspection) that the No. 2 Bullseye could be a commercial oil producer. But the High structural position of the test (coupled with the shows found in nearby dry holes), should encourage the careful stratigraphic study of the Dakota in the immediate area. It is possible that a more permeable section of Dakota exists close to the location of this test.

D A L Y D R I L L I N G C H R O N O L O G Y

6:00 AM to 6:00 AM

<u>DATE</u>	<u>DEPTH</u>	<u>ACTIVITY</u>	<u>FEET MADE</u>	<u>HOURS DRILLED</u>
6-22	0	Rigged Up. Spudded. Ran Surface Casing. Cemented	100	?
6-23	100	Waited on Cement	0	0.00
6-24	100	Drilled. Re-packed Swivel. Drilled. Trip for Bit No. 2. Drilled.	1128	21.75
6-25	1228	Drilled. Lost Circulation @ 1278 after trip for Bit No. 3. Waited on Mud, Water, Mud Engineer. Went to bottom with new Bit. Regained Circulation, Drilled.	352	8.00
6-26	1580	Drilled. Lost Circulation on trip @ 1880 to change Bits. Waited on Water. Went to bottom with new Bit. Plugged bit. Came out of hole pulling wet string.	300	9.50
6-27	1880	Cleaned rig. Changed Bits and Float assembly. Went to bottom with new Bit. Drilled.	310	15.50
6-28	2190	Drilled to Total Depth. Circulated for Logs. Waited on Loggers. Came out of hole. Rigged Up Logger. Ran in with IES - tool inoperative. Ran 2 other surveys, waited on new Sonde. Ran IES. Went into hole with bit to condition hole for Drill Stem Test.	19	2.00
6-29	2209	Circulated hole to condition for Drill Stem Test. Hoisted out, picked up DST Assembly. went into hole with same. Ran DST no. 1. Came out of hole with DST string. Shut down operations. Released crew and Geologist. Waited on Orders.	0	0.00

F O R M A T I O N T O P S

KB Elev. 7249

<u>FORMATION</u>	<u>LOG DEPTH</u>	<u>DATUM</u>
Crevasse Canyon	305	+6944
Hospah	590	+6659
Massive Gallup	989	+6260
Lower Mancos	1133	+6116
Dakota - A	1804	+5445
Dakota - B	1908	+5341
Dakota - D	1975	+5274
Burro Canyon	2058	+5191
Morrison	2133	+5116

Total Depth 2213

B I T R E C O R D

6-1/4" Hole

<u>No.</u>	<u>MAKE</u>	<u>TYPE</u>	<u>DEPTH OUT</u>	<u>WGHT</u>	<u>RPM</u>	<u>FOOTAGE</u>	<u>HOURS</u>	<u>FT/HR</u>
1	Walker MacDonald	WM-3	900	-	-	800	11.00	72.7
2	Walker MacDonald	WM-3	1280	-	-	380	10.75	35.3
3	Walker MacDonald	WM-3	1880	-	-	600	16.50	36.4
4	Walker MacDonald	WM-3	2209	-	-	329	14.00	23.5
TOTALS						2109	52.25	(40.4)

M U D C H A R A C T E R I S T I C S

Bariod Mud Services

<u>DATE</u>	<u>DEPTH</u>	<u>WGHT</u>	<u>VIS</u>	<u>Ph</u>	<u>WTR LOSS</u>	<u>CAKE</u>	<u>ALK</u>	<u>SOLIDS</u>	<u>SAND</u>	<u>LCM</u>
6-25	1298	8.6	35	7.2	18	3/32	.41	-	Tr.	20%
6-26	2060	9.3	37.5	8.0	13.2	3/32	.60	-	2.3	13%

D E V I A T I O N S U R V E Y S

None

C O R E S

None

D R I L L S T E M T E S T

Halliburton Services

DRILL STEM TEST No. 1 1810 - 1824 (Hookwall Straddle Packer)

Tool opened with weak blow which decreases. Blow started increasing at about 27 minutes, decreased to practically nothing by end of open.

Tool open 45 minutes, Shut In 1-1/2 hours.

Recovered 150 feet of drilling mud with trace of brown oil.

Pressures:	Initial Hydrostatic	900.4
	Initial Flow	26.4
	Final Flow	72.4
	Shut In	472.6
	Final Hydrostatic	893.8

Charts Indicated a valid test.

C O M P L E T I O N R E C O R D

The Geologist was released on June 29, 1974. An attempt is currently being made to complete the test in the Dakota Sands after production casing was run.

SAMPLE	DESCRIPTION
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DEPTH	DESCRIPTION
NOTE - Samples from 100 to 500 are shown with depth of actual sample catch. No correction for drilling time or circulation lag have been applied.	
100 - 110	70% White quartz sand, medium grained, with slight salt and pepper appearance. Sand is well sorted with grains being sub-angular to sub-round. Poorly cemented. Clay filled. No show. 30% Dark gray shale, fine, even textured. Non-stratified. Poker chip, tabular shaped pieces.
110 - 120	80% Sand, as described above. Slightly finer grains, slightly more argillaceous. 20% Dark gray shale, as described above.
120 - 130	100% White to gray sand, as described above. Fine to medium grained. with black speckled inclusions. Slightly glauconitic, heavily clay filled. Tr. Pyrite
130 - 140	60% White sand, medium grained, quartz. Sub-angular grains, well sorted. Black speckled and glauconitic inclusions. Sand is fairly clean, having little to no clay fill. No show. 40% Finer grained, white to gray sand, as described above.
140 - 150	80% White, medium grained sand, as described above. 20% Sand, white to gray, finer grained, as described above.
150 - 160	90% White, medium grained quartz sand, as described above, becoming slightly finer grained and more clay filled. 10% Gray siltstone, has black speckled inclusions and bands of darker material (mica?) running through matrix. Tr. Black, lignitic coal.
160 - 170	Sample as described above - all sand is now clay filled.
170 - 180	70% Fine to medium grained, clay filled sand, as described above. 20% Gray siltstone, as described above, often pyritic. 10% Black lignitic coal.
180 - 190	100% Fine to medium grained quartz sand, clay filled, as above. Tr. Siltstone, as described above. Trace of coal.
190 - 200	60% Gray silty shale, slightly rubbly in texture, slightly stratified. Argillaceous. 30% Gray siltstone, slightly argillaceous, often pyritic. 10% White sand, as described above.

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200 - 210	80%	Light gray siltstone, argillaceous, soft, crumbly, occasional black speckled inclusions.
	10%	Black lignitic coal
	10%	Quartz Sand, fine grained, clay filled, as described above.
210 - 220	90%	Very fine grained gray quartz sand. Has salt and pepper appearance. Well sorted, poorly cemented. Has clay filling, micaeous inclusions. No show.
	10%	Black coal
220 - 230	40%	Gray to white siltstone, probably transitional with sand described above. Very arenaceous, argillaceous, soft, crumbly.
	30%	Coal
	30%	Sandstone, white to gray, fine grained. Banded with siltstone as described in this sample catch.
230 - 240	90%	Dark gray siltstone, very arenaceous. Often banded with lighter gray siltstone in micro laminations. Also micro lams of coal.
	10%	White quartz sand. Very silty, silt occurring both in bands and disseminated through the matrix. Sand is clay filled.
240 - 250	90%	White to gray quartz sand, very silty, as described above.
	10%	Dark gray siltstone, as described above.
250 - 260	50%	White to gray, medium to coarse quartz sand. Well sorted, poor cementation. Grains are angular to sub-angular. Slightly glauconitic. Also black foreign matter in matrix. Clay filled. No show.
	30%	Fine grained white to gray quartz sand, silty, argillaceous.
	20%	Gray siltstone, as described above.
	Tr.	Coal, black
260 - 270	70%	White to gray, medium to coarse sand, as described above.
	20%	Dark gray siltstone, as described above.
	10%	Coal, black
270 - 280	70%	White to gray, fine grained quartz sand. Very argillaceous, salt and pepper appearance. Clay filled. No show.
	10%	Dark gray siltstone.
	10%	Black coal
	10%	Gray to white medium to coarse white quartz sand, as described above.
280 - 290	70%	Light gray arenaceous siltstone. Highly argillaceous, speckled with black inclusions disseminated through matrix.
	20%	Gray quartz sand, very fine grained. Glauconitic, clay filled. Poorly cemented.
	10%	Coal, black.
290 - 300	60%	Shale, dark gray. Rubbly texture, arenaceous. Slightly stratified. Platey pieces.
	30%	Light gray siltstone, as described above
	10%	Very fine grained, gray sand, as described above
	Tr.	Coal

300 - 310	Sample is as described above
310 - 320	50% Coarse white sand. Grains are sub-round to sub-angular, fairly well sorted, poor cementation. Black pebbles scattered through matrix. No show. 30% Black shale, smooth to rubbly in texture, slightly stratified. 10% Light gray siltstone, as described above 10% Coal, low grade lignitic, black Tr. Pyrite
320 - 330	Sample as described above
330 - 340	60% Coarse grained white sand, as described above 20% Coal, as described above 10% Light gray Siltstone, as described above 10% Black shale, as described above
340 - 350	40% Gray to black rubbly shale, as described above 30% Black coal 20% Medium to coarse white quartz sand, as described above 10% Light gray siltstone, as described above.
350 - 360	80% White to gray medium grained quartz sand. Very silty, very clay filled, poorly sorted. Poorly cemented. No show. 20% Silt and gray shales, as described above
360 - 370	50% Medium grained white to gray quartz sand, as described above. 30% Light gray siltstone, arenaceous, argillaceous, soft. 20% Coal, black Tr. Pyrite
370 - 380	70% Medium grained white to gray quartz sand, as described above 20% Arenaceous siltstone, as described above 10% Coal
380 - 390	100% Loose, unconsolidated quartz grains. Grains are medium to coarse, sub-round. Black and pink pebbles also present. Poorly sorted as to size. Tr. Coal
390 - 400	Sample as described above - Grains of sand are slightly smaller, better sorted.
400 - 500	Sample is as described above.
<i>NOTE - Sample descriptions from 500 feet to total depth have been corrected as to depth. Depths shown are lagged back on the basis of drilling time and circulation lag to coincide with log depth. Parenthesised figures indicated depth of actual sample catch.</i>	
500 - 542 (500-550)	Samples are as described above
542 - 552 (550-560)	100% Very fine grained gray quartz sand. Well sorted, fairly well cemented. Almost a siltstone. Occasional black speckled matter in matrix.

552 - 583 (560-590)	Sample as described above
583 - 590	Sample as described above - Sand is slightly coarser grained.
590 - 600 (600-610)	100% Very fine grained, gray to white quartz sand. Slight salt and pepper appearance. Grains are sub-round. Slightly glauconitic. Sand is poorly sorted, fair cementation. Heavy clay filled.
600 - 610 (610-620)	Sample is as described above Tr. Gray silty shale, argillaceous, tabular pieces.
610 - 622 (620-630)	90% Sand, as described above. Has micaceous inclusions, both bands and disseminated through matrix. 10% Very fine textured quartz siltstone, gray, probably transitional with the above sand. Arrenaceous, argillaceous, medium soft.
622 - 628 (630-640)	Sample is as described above - Sand is very slightly coarser, slightly less clay filled.
628 - 642 (640-650)	50% Sand, as described above 50% Siltstone, as described above Tr. Fine textured, light gray shale, medium soft, argillaceous.
642 - 652 (650-660)	Sample as described above - Sand is bordering on an arenaceous siltstone.
652 - 660 (660-670)	70% White to gray siltstone, with disseminated and banded tan zones throughout. Argillaceous, highly arenaceous. 30% Medium grained to fine, silty sand, as described above.
660 - 672 (670-680)	Sample is as described above
672 - 684 (680-690)	80% Gray siltstone, as described above 20% Silty sand, as described above.
684 - 690 (690-700)	90% Gray siltstone, as described above 10% Silty sand, as described above Tr. Light gray silty shale, soft, arenaceous, argillaceous.
690 - 700 (700-710)	80% Gray siltstone, as described above 20% Light gray shale, slightly stratified, as described above Tr. White silty sand, as described above
700 - 709 (710-720)	80% Light gray, soft shale, as described above 20% Gray siltstone, as described above
709 - 725 (720-730)	60% Gray shale, as described above 20% Gray siltstone, as described above 20% Medium to fine grained quartz sand. Poorly sorted grains. Has heavy clay filling, black speckled inclusions. Fair cementation.
725 - 730 (730-740)	Sample is as described above

730 - 742 (740-750)	50% Gray siltstone, as described above 30% Medium to fine grained quartz sand, as described above 20% Gray shale, as described above. Tr. Pyrite
742 - 754 (750-760)	70% Gray silty shale, soft, argillaceous, almost a mudstone 20% Gray siltstone, as described above 10% Medium to fine grained quartz sand, as described above'
754 - 763 (760-770)	70% Fine grained, white to gray, silty sand, heavily clay filled. 20% Gray shale, fine textured, as described above 10% Gray siltstone, as described bove.
763 - 765 (770-780)	70% Gray siltstone, as described above 20% Medium to fine grained sand, as described above 10% Even textured shale, as described above
765 - 780 (780-790)	60% Gray siltstone, as described above 20% Medium to fine grained sand, as described above 20% Smooth gray shale, as described above
780 - 784 (790-800)	60% Gray siltstone, as described above 30% Smooth gray shle, as described above 10% Medium to fine grained sand, as described above
784 - 803 (800-810)	40% Very fine grained, white to gray quartz sand. Very argillaceous. Poorly cemented, well sorted. Has black speckled inclusions. 40% Gray siltstone, as described above 20% Smooth gray shale, as described above
803 - 815 (810-820)	Sample is as described above
815 - 825 (820-830)	50% Gray siltstone, as described above 30% Darker gray shale, silty, rubbly texture, arrenaceous. 20% Very fine grained quartz sand, as described above
825 - 836 (830-840)	Sample is as described above
836 - 846 (840-850)	50% Gray siltstone, as described above 30% Very fine grained quartz sand, as described above 30% Darker gray shale, as described above
846 - 856 (850-860)	100% White to tannish white siltstone. Very fine textured, almost a very fine grained sand. Highly argillaceous, micaceous.
856 - 863 (860-870)	90% Siltstone, as above. Some of sample slightly less arrenaceous. 10% Gray silty shale, stratified, arrenaceous, argillaceous.
863 - 870 (870-880)	80% White to tannish white siltstone, as described above 10% Medium grained, white, quartz sand. Grains are sub-anular, fair sorting. Slightly glauconitic, fair cementation, clay filled. 10% Gray silty shale, as described above.

870 - 875 (880-890)	60% White to tannish white siltstone, as described above. 20% Sand, as above, becoming slightly smaller grain size, better cementation. 20% Gray silty shale, some pieces slightly less silty, smoother texture. Slightly darker color gray. Tr. Pyrite.
875 - 885 (890-900)	40% Gray shale, as described above. 30% Medium grained white quartz sand, as described above. 30% Gray siltstone, arenaceous, argillaceous, fairly smooth.
885 - 900 (900-910)	60% Gray siltstone, as described above 20% Medium grained sand, as described above 20% Gray silty shale, as described above
900 - 911 (910-920)	50% White quartz grains, un-cemented, medium sized angular grains. 25% Gray silty shale, as described above 25% Gray siltstone, as described above
911 - 922 (920-930)	100% Unconsolidated white quartz grains, as described above
922 - 930 (930-940)	80% White to tannish white, coarse siltstone, almost a very fine sand. 10% White quartz sand, medium grained, fairly well sorted, poor cementation. Grains are sub-angular. 10% Gray silty shale, as described above.
930 - 940 (940-950)	Sample is as described above
944 - 950 (950-960)	80% Very fine grained white quartz sand. Almost a siltstone. Silt cut, occurring both as disseminations and as bands through piece. Grains are well sorted, poorly cemented. Fair amount of clay fill. Black and brown larger pebbles scattered through matrix. 10% Varicolored siltstone, white, brown, gray.
950 - 962 (960-970)	100% Fine grained unconsolidated quartz sand, angular grains.
962 - 971 (970-980)	60% Very fine white quartz sand, almost a siltstone - as described in sample 944 - 950. 30% Gray siltstone. 10% Gray silty shale.
971 - 980 (980-990)	100% Unconsolidated quartz sand, as described above
980 - 987 (990-1000)	Sample as described above
987 - 995 (1000-1010)	90% Fine grained white quartz sand, almost an arenaceous silt. Poorly sorted. Fair cementation. Clay filled. Speckled with brown and black inclusions. 10% Tan to mottled with white, and white siltstone, arenaceous, argillaceous.

995 - 1001 (1010-1020)	70% Fine grained white quartz sand, as described above 20% Gray-brown shale, even textured, smooth, soft, argillaceous, tabular pieces. 10% Tannish-white siltstone, as described above.
1001 - 1015 (1020-1030)	90% Sand and silt - gradational, both as described above 10% Gray-brown shale, as described above.
1015 - 1030 (1030-1040)	Sample as described above - Sand is slightly larger in grain size. Sand is less well cemented, with a bit more apparent porosity.
1030 - 1037 (1040-1050)	Sample is as described above
1037 - 1047 (1050-1060)	100% White sand, transitional with white siltstone, as described above.
1049 - 1059 (1060-1070)	80% White and tan siltstone, argillaceous, arenaceous, colors occur as bands. 10% White sand, as described above 10% Gray-brown shale, as described above
1059 - 1070 (1070-1080)	70% White and tan banded siltstone, as described above 20% White sand, as described above 10% Gray-brown shale, as described above.
1070 - 1080 (1080-1090)	80% Varicolored siltstone, white, tan and gray, less arenaceous than that above 10% White sand, as described above 10% Gray-brown shale, as described above
1080 - 1090 (1090-1100)	90% Varicolored siltstones, as described above 10% Gray-brown shale, as described above Tr. White quartz sand, as described above
1090 - 1102 (1100-1110)	100% White quartz grains, unconsolidated, angular, medium in size
1102 - 1114 (1110-1120)	Sample as described above
1114 - 1123 (1120-1130)	100% Dark gray silty shale. Rubbly, even texture, slightly stratified. Occasionally arenaceous. Argillaceous. Tr. Pyrite
1123 - 1135 (1130-1140)	40% Varicolored siltstone, gray, white, tan. Silt is rubbly, stratified. Argillaceous, fairly soft. 20% White quartz sand. Medium to fine grained, poorly sorted, poorly cemented. Grains are sub-angular. Clay filled, glauconitic. 20% Dark gray silty shale, as described above. Tr. Pyrite

1135 - 1144 (1140-1150)	40% Dark gray silty shale, as described above 40% Medium to fine grained white quartz sand, as described above. 20% Gray rubbly siltstone, as described above.
1144 - 1154 (1150-1160)	60% Dark gray silty shale, as described above 30% White to gray siltstone, as described above 10% White, medium to fine quartz sand, as described above.
1154 - 1164 (1160-1170)	80% White to tannish white, sand. Very fine grained, well sorted. Argillaceous, heavily clay filled. Very slightly glauconitic. 20% White siltstone, same description as sand above and probably transitional with it.
1164 - 1174 (1170-1180)	Sample as described above
1174 - 1184 (1180-1190)	90% White quartz sand, as described above 10% White siltstone, as described above
1184 - 1194 (1190-1200)	50% Gray silty shale, rubbly in appearance, slightly stratified. 30% White sand, as described above 20% White and tan siltstone, as described above
1194 - 1206 (1200-1210)	90% Dark gray shale, silty, rubbly, slightly stratified, argillaceous. 10% White, very fine grained quartz sand, as described above.
1206 - 1215 (1210-1220)	80% Dark gray shale, as described above 10% Gray siltstone, arenaceous, slightly stratified, rubbly, argillaceous 10% White sand, as described above
1215 - 1266 (1220-1270)	100% Dark gray shale, as described above
1266 - 1274 (1270-1280)	Sample as described above Tr. Very fine grained, white quartz sand.
(1280-1290)	Invalid because of trip
1280 - 1294 (1290-1300)	80% Gray-brown silty shale, slightly arenaceous, argillaceous, uniform rubbly texture. Stratified. 20% Gray to brown siltstone, argillaceous, arenaceous, rubbly, possibly transitional with shale described above. Tr. Quartz sand, pyrite.
1294 - 1303 (1300-1310)	100% Gray-brown silty shale, as described above. Tr. Calcite crystals
1303 - 1329 (1310-1340)	Samples are as described above
1329 - 1337 (1340-1350)	Sample is as described above Tr. Very fine grained white quartz sand, evenly sorted, well cemented, Clay filled.
1337 - 1385 (1350-1400)	Samples as described in 1303 - 1329

1385 - 1406 (1400-1420)	Sample as described above - Some of the shale is more arenaceous, siltier than the above.
1406 - 1417 (1420-1430)	Sample as described above Tr. Light orange colored sand and siltstone, well cemented, hard.
1417 - 1428 (1430-1440)	Sample is as described above - Some shale becoming very black, Smoother textured, more siliceous, brittle.
1428 - 1450 (1440-1460)	Samples as described above - Black shale predominating.
1450 - 1470 (1460-1480)	Samples as described above Tr. Light orange calcitic sand. Grain structure is coarse, or at times barely visible. Fossiliferous.
1470 - 1478 (1480-1490)	Sample as described above - Tr. of sand diminishing.
1478 - 1487 (1490-1500)	Sample as described above - No calcitic sand present
1487 - 1518 (1500-1530)	Samples as described above - Shale is slightly more arenaceous.
1518 - 1529 (1530-1540)	Sample as described above Tr. Orange and white quartz sand, medium grained, well cemented, Clay filled, no apparent porosity.
1529 - 1538 (1540-1550)	Sample as described above - no trace of orange sand.
1538 - 1555 (1550-1560)	Sample as described above - Part of shale is silty, arenaceous. Tr. White quartz sand, medium grained, well cemented, clay filled.
1555 - 1565 (1560-1580)	Sample as described above - less silt content in shale
1565 - 1577 (1580-1590)	95% Shale, as described above 5% Very fine grained white to gray silty sand. Uniformly sorted. Poorly cemented. Most pieces have heavy silt content. Clay filled.
1577 - 1590 (1590-1600)	90% Shale, as above 10% Sand, as described above
1590 - 1598 (1600-1610)	70% Shale, as described above 30% Brown siltstone, slightly arenaceous. Uniform texture. Hard, quartzitic.
1598 - 1608 (1610-1620)	60% Shale, as described above 30% Brown siltstone, as described above 10% White, medium to fine grained sand. Poorly sorted, poorly cemented. Clay filled, slightly glauconitic. Tr. Pyrite

1608 - 1618 (1620-1630)	100% Shale, as described above
1618 - 1632 (1630-1650)	100% Shale, as described above Tr. White sand, as described in 1598 - 1608
1632 - 1652 (1650-1670)	Samples as described above - No sand present
1652 - 1668 (1670-1680)	100% Shale, as described above Tr. White to slightly bluish white medium grained sand. Poorly sorted, fair cementation. Clay filled.
1668 - 1688 (1680-1700)	Samples as described above - little to no sand content
1688 - 1695 (1700-1710)	100% Shale, as described above Tr. Bluish colored siltstone, arenaceous, slightly micaceous. Very hard. Has micro laminations of brown matter running along bedding planes.
1695 - 1705 (1710-1720)	100% Shale - as above. Some of the shale is more rubbly and stratified. Some pieces have yellow, pink, and slightly orange inclusions in matrix. Slightly more calcareous.
1705 - 1723 (1720-1730)	100% Shale, as described above - less pieces with above described varicolored inclusions. Shale is more siliceous, brittle.
1723 - 1732 (1730-1740)	100% Shale, as described above Tr. Pyrite
1732 - 1745 (1740-1750)	100% Shale, as described above Tr. Bluish-green sandy siltstone, smooth, soft.
1745 - 1752 (1750-1760)	100% Shale, as described above Tr. Siltstone, as described above, Pyrite.
1752 - 1766 (1760-1770)	70% Shale, as described above 30% Gray-brown siltstone, fine textured. Slightly arenaceous in some pieces. Tr. Pyrite
1766 - 1774 (1770-1780)	Sample as described above - Shale is becoming slightly more silty, arenaceous in some pieces. Tr. Pyrite.
1774 - 1778 (1780-1790)	100% Shale, black, as described above - less silt content
1778 - 1792 (1790-1800)	Sample as described above
1792 - 1801 (1800-1810)	Sample as described above

1801 - 1811 (1810-1820)	80% Shale, as described above 20% White quartz sand. Fine grained. Grains are sub-round, well sorted. Occasional pink grains and glauconite in matrix. Moderate clay filling. Blue-white fluorescence in a few clusters. Fluorescence is spotty and un-even. No visible oil stain. Weak cut in trichloroethylene.
1811 - 1824 (1820-1830)	Sample as described above. A slightly greater percentage of sand clusters fluoresce (about 1/3 of the sand in the sample).
1824 - 1834 (1830-1840)	70% Shale, black, siliceous, as described above 30% Sand, as described above. About the same percentage of sand in sample fluoresces. No oil stain. Cut is still weak.
1834 - 1844 (1840-1850)	Sample as described above
1844 - 1854 (1850-1860)	50% Very fine grained quartz sand, white. Sand is clay filled. Has dark colored, speckled inclusions, and glauconite in matrix. Sand is uniformly sorted, fair to poor cementation. About 40% of sand has blue to white spotty fluorescence. No visible oil stain. Poor to weak cut. 50% Shale, as described above.
1854 - 1859 (1860-1870)	50% Gray to white siltstone, often arenaceous. Silt is very argillaceous, dirty, slightly micaceous, some glauconite. 50% Dark gray to black silty shale. Tr. White Sand, as described above
1859 - 1867 (1870-1880)	Samples is as described above
(1880-1890)	Invalid because of trip
1880 - 1894 (1890-1900)	100% Black to gray shale. Texture is from smooth to rubbly dependent on amount of silt content. Slightly stratified. Pokerchip shape. Tr. White, medium to fine grained quartz sand. Clay filled. Fairly well cemented. No show.
1894 - 1898 (1900-1910)	40% Slack silty shale, as described above 40% Gray - white silt and sand. Salt and pepper appearance. Slightly banded, micaceous. Soft. 20% White quartz sand. Medium to fine grained. Silty, dirty, micaceous, clay filled. No show.
1898 - 1904 (1910-1920)	50% Black silty shale, as described above. 40% Siltstone, as described above 10% Sand, as described above. Some clusters have larger grains, still silty, dirty, glauconitic, clay filled, no show.
1904 - 1920 (1920-1930)	70% Black silty shale, as described above. 20% White quartz sand. Medium grained. Grains are sub-angular, fairly well sorted, fair cementation. Slightly glauconitic, heavily clayfilled. No show. 10% Siltstone, as described above.

1920 - 1932 (1930-1940)	60% Black shale, as described above 30% White quartz sand, as described above - slightly better cementation. 10% Siltstone, as described above
1932 - 1941 (1940-1950)	50% Black shale, as described above 40% Sand, as described above - becoming more clay filled, still better cementation - No show. 10% Siltstone, as described above.
1941 - 1949 (1950-1960)	60% Shale, as above 20% Sand, as above 20% Silt, as above
1949 - 1962 (1960-1970)	100% Black shale, as described above Tr. White sand, silt, pyrite
1962 - 1970 (1970-1980)	80% Black shale, as described above 20% Very fine grained, white silty sand. Uniformly sorted. Hard, well cemented. Clay filled. No show.
1970 - 1978 (1980-1990)	50% Black shale, as described above 30% Fine grained white quartz sand. Sub-rounded grains, uniformly sorted. Poorly cemented. Clay filled. No show. 20% Smooth gray siltstone
1978 - 1989 (1990-2000)	40% Black shale, as above 40% Sand, as above, some pieces having a little larger grain size, slightly less clay filling. 20% Gray siltstone, as described above.
1989 - 2000 (2000-2010)	40% Sand, almost all medium grained, but still clay filled. Slightly glauconitic. 40% Gray siltstone, as above 20% Black shale, as above
2000 - 2010 (2010-2020)	40% Sand, as described above 40% Black shale, as above 20% Gray siltstone, as above
2010 - 2024 (2020-2030)	50% Black shale, as described above 40% Sand, as described above, no show 10% siltstone Tr. Pyrite
2024 - 2030 (2030-2040)	Sample as described above
2030 - 2042 (2040-2050)	100% Dark brown to black siliceous shale, pokerchip pieces. Tr. White quartz sand, as described above
2042 - 2056 (2050-2060)	60% Black siliceous shale, as described above 30% Gray siltstone, arenaceous. Argillaceous, speckled with black inclusions. Fairly hard. 10% White quartz sand. Questionable yellow fluorescence in about 3 sand clusters. Description is same as above.

2056 - 2064 (2060-2070)	80% Black siliceous shale, as described above. 20% Medium grain white quartz sand. Angular to sub-angular grains. Poor to fair sorting. Sand is very clean, with almost no silt. No clay fill. No show.
2064 - 2075 (2070-2080)	Sample is as described above - Sand is becoming slightly finer grained, with some silt and clay content in matrix. Slightly glauconitic.
2075 - 2084 (2080-2090)	60% Black siliceous shale, as described above 20% White quartz sand. Grains are medium sized, angular. Some clusters are clean, others silty and clay filled. Poor to fair cementation. No shows. 10% Siltstone, as above 10% Pyrite, pyritic siltstone.
2084 - 2087 (2090-2100)	50% White quartz sand, as described above. About 1/3 of sand is finer grained, has heavy clay fill, is better cemented, has glauconitic inclusions. 40% Black shale, as described above 10% Siltstone, as above
2087 - 2100 (2100 20min Circ)	50% Sand, as described above, no show 30% Black shale, as above 15% Siltstone, gray, arenaceous, slightly hard, argillaceous. 5% Pyrite
2100 - 2107 (2100-2110)	30% White quartz sand, as above, no show. 30% Sub-angular, large smokey quartz pebbles. 20% Gray black pokerchip shale 20% Gray siltstone, as described above.
2107 - 2113 (2110-2120)	90% Black, siliceous, pokerchip shale. Slightly micaceous, brittle. 10% Medium to fine grained white quartz sand, clay filled. No show. Tr. Gray siltstone, soft, argillaceous.
2113 - 2126 (2120-2130)	50% Black shale, as described above 30% Brown to whitish brown arenaceous siltstone. Micaceous. 20% White quartz sand and smokey quartz pebbles. Tr. Pyrite
2126 - 2134 (2130-2140)	50% Black shale, as described above 30% White quartz sand, smokey quartz pebbles, amorphous smokey quartz pieces. 20% Gray-brown siltstone Tr. Pyrite
2134 - 2143 (2140-2150)	50% White quartz and smokey quartz, as above 30% Black shale, as described above 20% Brown-gray siltstone
2143 - 2153 (2150-2160)	50% Black siliceous, pokerchip shale, as above 30% Green shale, smooth rounded pieces, soft, slightly bentonitic. Brown mineral speckles throughout matrix. 10% White quartz sand, medium to fine grained, clay filled. No show. 10% Brown-gray silt stone, as above

2153 - 2163 (2160-2170)	50% Black pokerchip shale, as described above 50% Smooth green shale, as described above Tr. White quartz sand, pyrite, siltstone
2163 - 2175 (2170-2180)	50% White to slightly greenish quartz sand. Medium grained, grains are angular, sorting is poor. Sand is often mixed with green and pink grains. Well cemented. 25% Black shale, as above 25% Smooth green shale, as above
2175 - 2185 (2180-2190)	50% Green shale, as described above - less speckled with brown. Has very slightly rubbly texture. Almost vitreous in appearance. 30% Black pokerchip shale, as above 20% White quartz sand, medium grained. Free quartz pebbles. Tr. Pyrite, red shale
2185 - 2195 (2190-2200)	40% Black shale, silty, as described above 30% White quartz pebbles and white quartz sand - slightly less sand content than in above sample catch. 20% Green shale, as above
2095 - 2207 (2200-2209)	40% Green shale, as described above 40% Black shale, as described above 10% Red shale, smooth, silty 10% White quartz pebbles, almost no sand. Tr. Pyrite

Samples were turned over to Mr. G. Wilson of Fairfax Exploration, Inc.

