OPEN FILE

Pre-SUKUNKA RIVER 76(1)A

MASTER EXPLORATIONS LTD.
SUKUNKA LEASES
REPORT

OBSERVATIONS FROM B.P.
E.T. PANCHYSYN WELLS, 1976

MAY 2 - 1977

GEOLOGICAL BRANCH
ASSESSMENT REPORT

00675

MEMORANDUM

FROM THE

DEPARTMENT OF MINES
AND PETROLEUM RESOURCES

TO Mr. A. R. C. James

Senior Inspector of Mines - Coal

VICTORIA, B.C., May 10, 1977

DEPT. OF MINES
AND PETROLEUM RESOURCES
Rec'd MAY 11 1977

WHEN REPLYING PLEASE REFER
TO FILE NO.

Re: Master Explorations Ltd.
Details of 1976 work on Coal Licences Nos.
3530-33, 3553-40, et al. (30)

The attached report "Master Explorations Ltd. - Sukunka Leases Report, Observations from B.P. Wells, 1976" has been received in response to my letter of April 20, 1977 to Master Explorations.

The Plan of Operations file with cover sheet detailing the 1976 work is also attached.

A. R. Corner
Administrator for Coal

ARC/pjp

Attachment

PR-SUKUNKA RIVER 76(1)A

May 2, 1977

I certify that the contents of the attached report represents accurately the work done on the subject coal licences in 1976 and that I have full knowledge of the data presented therein.

P. Eng.

E. J. Panchysyn, P.Eng.

1976 SUKUNKA RIVER LEASES

During 1976, Manalta Coal did not initiate any drilling on their Sukunka River Leases, however observation of the top 400' and 600' of two deep gas wells drilled for British Petroleum on our coal leases was instituted.

These wells were totally drilled and operated for British Petroleum, with Manalta Coal Ltd. receiving the right to observe and sample, where determined useful, any coal horizons in the top 1000' of the well.

Any information and data pertaining to the drilling and sampling of these wells should be sought from B.P.O.G.

OBSERVATIONS OF B.P. WELLS

INTRODUCTION

Prior to 1976 it was learned that British Petroleum was planning to drill two gas wells on lands which fell within Manalta Coal's Sukunka Coal Leases. Permission was received from B.P.O.G. to send a company representative to observe the drilling of the upper 500 feet of these wells, and acquire any information of possible economic coal seams penetrated by these wells. The first well (B.P.O.G. Sukunka b-19-A) was observed from 0 to 400' by Mel Lee, Manalta's drilling supervisor, between January 23, 1976 and January 30, 1976. The second well (B.P. Sukunka b-65-B) was observed from 0 - 600' by Jim Yurko between September 21 and September 28, 1976.

Location

Well B.P. Sukunka b-19-A is located at b-19-A. 93-P-5

Well B.P. Sukunka b-65-B, is located at 1/4 unit B-65-B-93-P-5

Coal Geology

Coals are known to occur in two main geological horizons in the area, the lower cretaceous ~~Gates member of the Commotion formation~~ and the Gething formation. Some indication also suggests coal is present in the Nikanassin equivalent of the Minnes Group of upper Jurassic age.

The Gething formation contains the important coal zones within our lease area.

The Upper Gething formation contains the economically important Bird, Skeeter and Chamberlain seams, which provide economic reserves for several properties to the south (i.e., Bromeda and Quintette).

These seams occur in the upper 240' of the formation.

The lower Gething sequences start at the base of the Chamberlain coal seam and extends through to the Cadomin Conglomerate. This sequence consists of 600' of integrated sandstone, mudstones, siltstones and coals.

(1) "The interval has been divided into two sandstone units separated by a claystone - siltstone unit.

The lower unit is approximately 150 feet of fine to medium grained quartz - lithic sandstone, containing four generally uneconomic coal seams and carbonaceous claystone.

The middle unit is a 300 foot thick sequence of mudstone, siltstone and carbonaceous claystone. Several thin beds of glauconitic sandstone or mudstone occur in this unit.

The Upper Sandstone unit is 150 feet thick and similar to the lower sandstone unit, but containing approximately 20 feet of claystone-siltstone interbeds. This unit is characterized by the presence of thin beds of mudstone breccia which have not been observed in the Upper Gething sequence. One economic coal seam occurs toward the top of the unit."

This economic coal zone, referred to as the middle coal occurs extensively throughout our property.

Documentation of coal seams within the upper part of the Minnes Group has been limited with respect to outcrop studies, however personal communication with B.P. geologists who have studied oil and gas well logs from the area indicate numerous coal seams throughout the Nikanassin equivalent of the Minnes Group.

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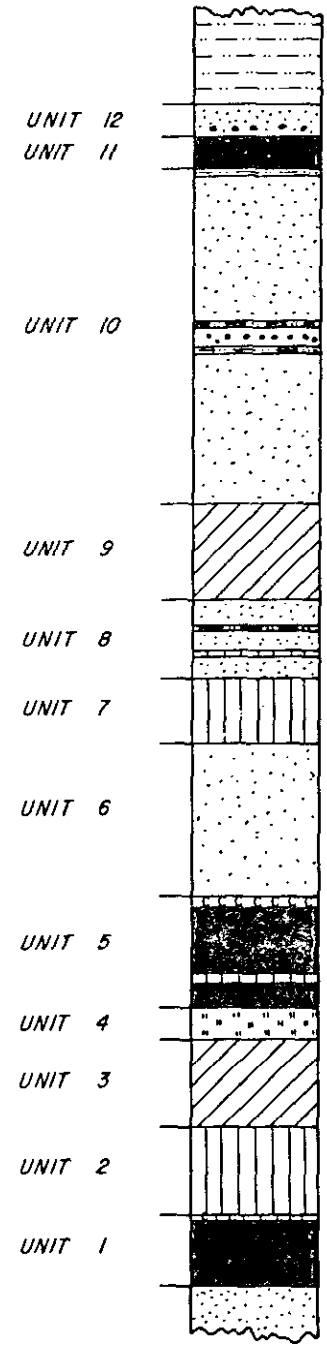
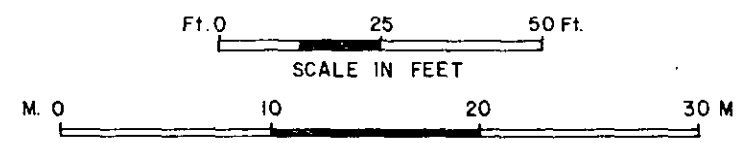
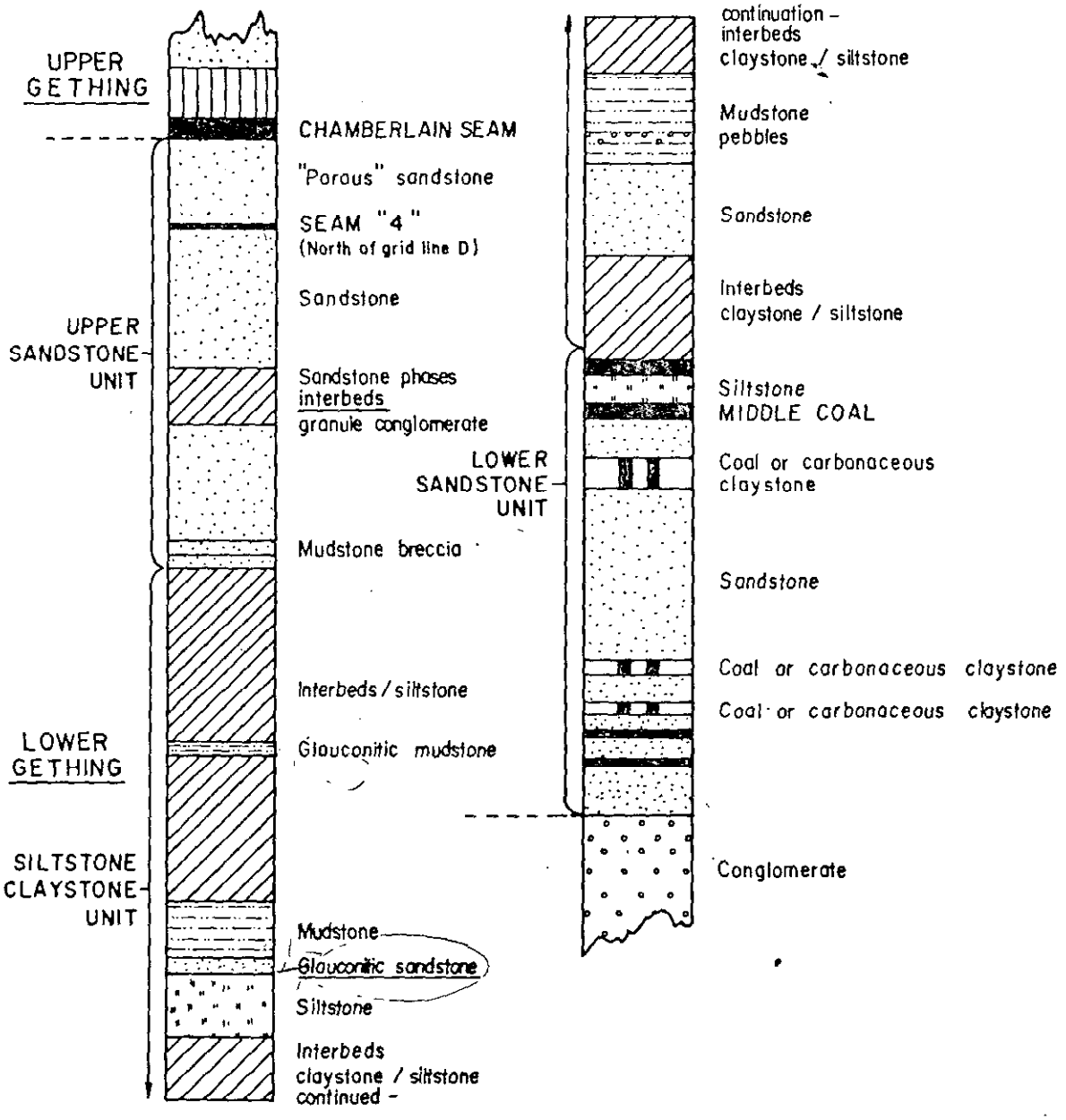
(1) Wallis and Jordon 1973



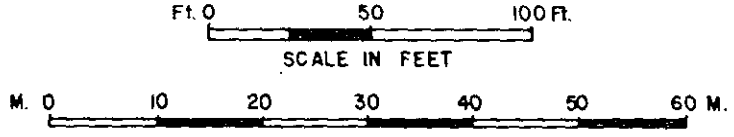
COMPOSITE GRAPHIC SECTION
UPPER GETHING SEQUENCE



From - Wallis & Jordan 1973



COMPOSITE GRAPHIC SECTION
LOWER GETHING SEQUENCE



FROM - WALLIS & SORDAN 1973

OBSERVATIONS

1) B.P. Sukunka b-19-A.

The top 400' of this well was observed.

Rig samples which were taken every 10 feet were observed for indications of coal seams. No coal was found within the interval observed. Very hard drilling as well as samples showing hard sandstone with quartz fragments indicate that the Cadomin Conglomerate was probably intersected at 206'. The well was still into the Cadomin when observation was ceased. The well was spudded in the lower sandstone unit within the Lower Gething formation.

The hole was later logged with a compensated neutron-gamma ray tool from 100 to 1000'. The logs indicate no significant coal in the upper 500 ft.

2) B.P. Sukunka b-65-B

This well was observed between 0 and 600'.

The hole was started on Tuesday, September 21st with about 40 ft. of glacial matter penetrated.

Samples were subsequently taken every 10 ft. by the driller and these were observed for indications of coal.

Three positive coal occurrences and a few smaller stringers were observed from the cuttings. Coal samples were collected from intervals 100 - 110 ft., 110 - 120 ft. and 430 - 440 ft.

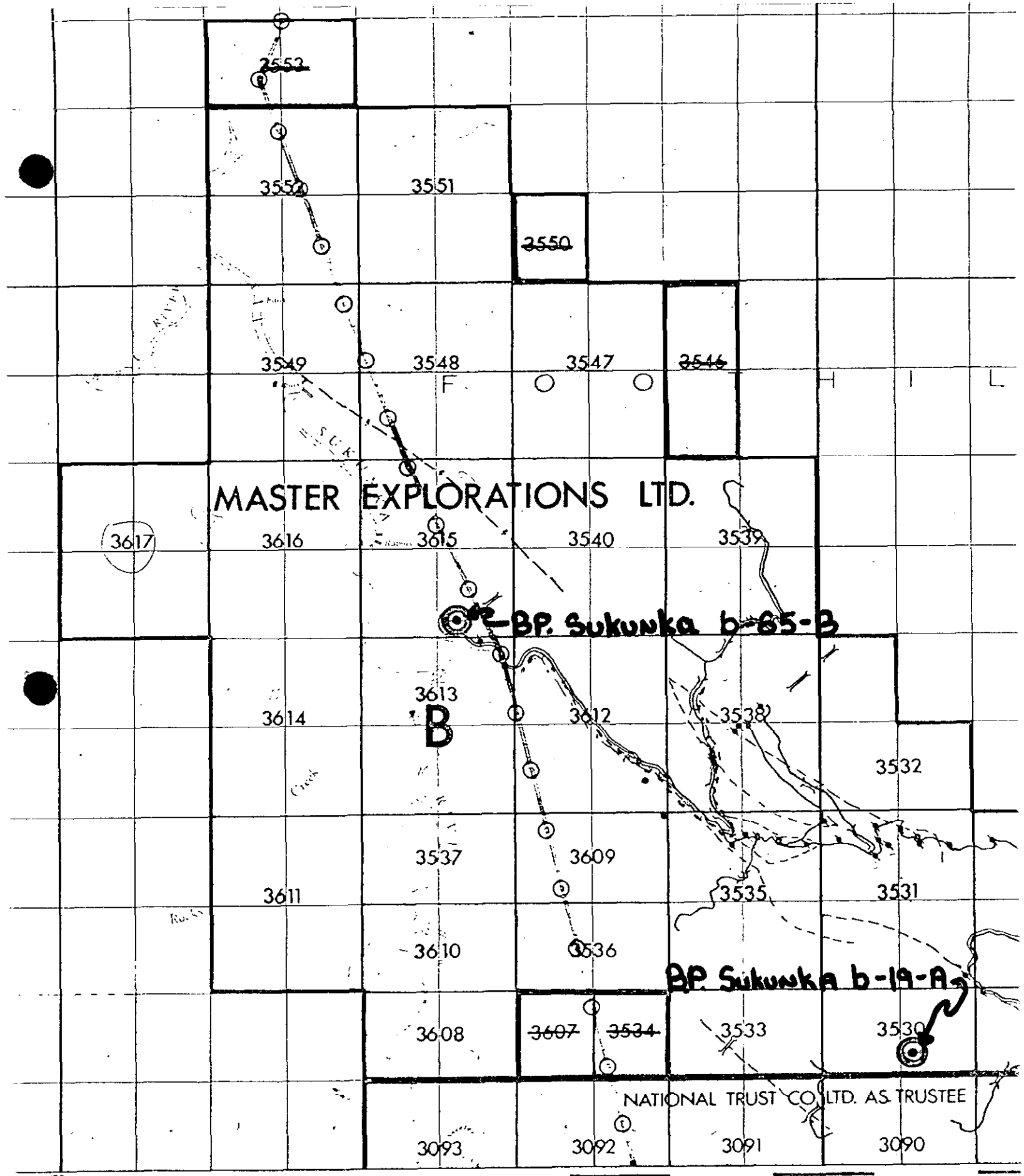
The two upper seams appeared at 100 - 103 ft. and 111 - 116 ft. A zone of carbonaceous shale and coal was found between 430 - 440 ft. however the coal quality appeared poor. No coal seams were observed between 440 and 600 ft.

Several outcrops were observed around the drill site and Gething and Cadomin outcrops were observed above the rig site. This seems to indicate that the hole was spudded into strata of the Minnes Group (Jurassic) with the coal stringers being equivalent to those of the Nikanassin formation of south-western Alberta.

The heavy structural activity within the area makes correlation of coal seams very difficult. It may also be inferred that the coals found in the upper 500' of this well are related to the middle coals of the Lower Gething formation. These coals outcrop further up the side of the mountain and may be represented as subsurface extensions within this well.

J. Yurko

May 4/77



SEE MAP 93-P-4

COAL TITLES REF. MAP 93-P-5

LEGEND

Open pit or stripped area

Seam tracing

COAL TITLES REFE

A8 - Rev. 12/72

DRILL LOG

DATE January 23, 1976 HOLE NO. B.P. Sukunka b-19-A

COMPANY Manalta Coal Ltd. ~~DRILLER~~ OBSERVER M. Lee

AREA

LOCATION b-19-A-93-P-5

ELEVATION HOLE SIZE $12\frac{1}{2}$"

INCLINATION
(Measured from Horizontal)

MECHANICALLY LOGGED ☐ yes ☐ no FOOTAGE 420'

FROM	TO	FORMATION
0	206	Soft sandstone and shale
206	331	Hard sandstone and stringers of quartz
331	345	soft sandstone
345	420	Hard sandstone & stringers of quartz

A8 - Rev. 12/72

DRILL LOG

DATE September 30, 1976 HOLE NO. BP Sukunka b-65-B

COMPANY Manalta Coal Ltd. observer/~~DRILLER~~ J. Yurko

AREA

LOCATION 1/4 unit b, Unit 65, b B, N.T.S. 93-P-5

ELEVATION HOLE SIZE

INCLINATION
(Measured from Horizontal)

MECHANICALLY LOGGED ☐ yes ☐ no FOOTAGE 600'

FROM	TO	FORMATION
0	40	Glacial material
40	100	drk grey shale, minor rusty bwn SST
100	110	dk gy shale and coal probable coal 100-104 ft.
110	120	dk gy shale and coal - very little coal seam 111 - 116
120	410	dk gy shale with varying amounts of dk gry to bwn, fine grained SST Possible coal 210 - 212 250 - 252
410	430	dk grey to bwn fine grained SST with minor shale
430	440	coal and carb shale, also minor amounts of dk grey to blk shale
440	600	dk grey to blk shale varying amounts of dk gry SST.