Annual Report 2013 – 2014 for EL25/2008

APPENDIX 1.

Report on gamma ray logging of OJ009-OJ029
(B.R. Senior & Associates, Jan 2014)

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JORC COMPLIANT INFERRED COAL RESOURCES IN THE MT ANSTEY, JERICHO AND RINGWOOD CREEK COAL PROJECT AREAS, ELs 25/2008 (Melton Mowbray) & 26/2008 (Lake Tiberias), TASMANIA.

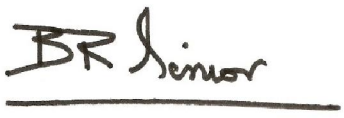
Prepared on behalf of

Midland Energy Limited

By

B.R Senior, PhD FAusIMM

24 February 2014



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EXECUTIVE SUMMARY

Tiger Energy Pty Ltd (wholly owned subsidiary of Midlands Energy Limited) currently holds two Exploration Licences (25/2008 & 26/2008) over the Mt Anstey, Jericho and Ringwood Creek Coal Project Areas, located in the Tasmanian central Midlands near the town of Oatlands (Fig. 1).

B.R. Senior & Associates P/L, Geological Consultants, were requested by Midlands Energy to independently prepare a coal resource assessment and a JORC compliant statement as set out in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Coal resources are estimated and reported according to the JORC Code 2012 and the results are summarised in Table 1.

Midlands Energy requested that all coal resources to total depths of drill holes were to be included in this assessment to provide the 'big picture' of coal distribution. Estimated coal resources are deemed to be fresh, with exclusion of oxidised and weathered coal, and with a minimum coal thickness of 0.10m and a maximum of 45% raw ash (adb).

This study incorporates all supplied data to the end of January 2014. Total Inferred Coal Resources are estimated for nine Coal Resource Blocks that are identified within a series of fault-bounded geological segments within a north-trending graben. **The total Inferred Coal Resources estimated and reported to date are 55.46 million tonnes (mt) with total Inventory Coal deposits of approximately 86.28mt.**

Two of these resource blocks are identified as having JORC compliant Inferred Coal Resources in excess of 10mt, and comprise Block 5 (Jericho Coal Project Area) with an estimated coal resource of 16.14mt and Block 9 (Ringwood Creek Coal Project Area) with an estimated coal resource of 15.8mt. The next largest coal resource is in Block 2 (Mt Anstey Coal Project Area) with an Inferred Coal Resource of 5.79mt. The remainder have generally less than 4mt, although further exploration may enable coal seam continuity to be identified between these coal resource blocks and may enable areas with 10mt or more to be identified.

A drilling program for each resource block is proposed which will enable the accuracy and possible upgrading of these estimated JORC compliant Inferred Coal Resources to be accomplished.

CONTENTS

1. INTRODUCTION

Nine potential coal resource blocks are identified through a review of the geology, exploration and water bore drilling, within a graben that extends from the Mt Anstey Project Area, southwards through Jericho to the Ringwood Creek Project Area. This graben comprises Triassic sedimentary rocks containing coal measures (Sequence 2) and are bounded to the east and west by non-coal sedimentary rocks (Sequence 1). All of the coal resource blocks have potential for economic coal and within two blocks located in the Jericho and Ringwood Creek Project Areas a combined and Inferred Coal Resource of approximately 32mt has been identified. These two areas are prioritised for future exploration drilling in order to elevate their Inferred Coal Resource status to JORC compliant Indicated/Measured Coal Resources. Further drilling, is also likely to elevate the Inferred Coal Resources in some blocks which have little drill hole data. Unfortunately, the geological structure is complicated and throughout all of these resource blocks there may be concealed faults, dolerite intrusives and facies changes within coal seams that add uncertainties to the inferred tonnages and may make upgrading of these potential resources difficult. A drilling program has been designed for each of these areas to minimise the amount of drilling required and as a means to reduce these risks.

Coal resource blocks are identified through a review of historical drill and water bore data and recent exploration drilling (OJ001 to OJ029) undertaken by Midland Energy which took place in 2012 & 2013. The geology, potential coal resource blocks and coal intersections are presented in three maps which extend from north to south through the Mt Anstey (Fig. 2), Jericho (Fig. 3) and Ringwood Creek Coal Project Areas (Fig. 4).

The objectives of this study were to identify areas where open cut mining could take place with reserves in the 10mt range, utilising coal seams greater than 10cm in thickness and having coal quality of less than 45% raw ash (adb). All coal seams to the full depths of individual drill holes were included in this assessment, in order to build up the 'big picture' of coal distribution throughout the three coal project areas.

The geology of the area is complicated due the presence of mid Jurassic dolerite intrusives and block faulting. These faults, which have small displacements of probably less than 100m, compartment the graben containing Late Triassic sedimentary rocks of the upper Parmeener Supergroup, into a series of segments. These individual segments form natural, fault-bounded boundaries to the nine identified coal resource blocks.

The Late Triassic sedimentary rocks are for the purpose of this report, informally divided into two sequences. Sequence 2 (coloured green in the figures), comprises up to eight coal seams within interbedded lithic arenites and lutites, and carbonaceous mudstones. Sequence 1 (white areas) comprises older, though similar sedimentary rock types, but lacks coal seams, or contains only coal fragments, or less commonly, thin seams of lignite.

According to Saywell & Martin (2009), Late Triassic coal is, typically, a very dull coal that formed in a dry forest moor environment, with ash 25 to 30 per cent, specific energy 20 to 24 MJ/kg (air dried), vitrinite reflectance is 0.5 to 0.6 per cent although coal affected by the dolerite sills has a much higher rank with vitrinite reflectance up to three per cent and sulphur is low at about 0.5 percent. Typical maceral analyses give 60 to 70 percent inertinite, ten per cent vitrinite and five to ten per cent liptinite.

Results from historical and recent drilling appear in Table 1 and coal quality analyses in Table 2. From these data the estimated tonnages of useable coal constituting a JORC compliant Inferred Coal Resource is calculated for each resource block.

1.1. PARAMETERS USED FOR CALCULATION OF INFERRED COAL RESOURCES.

In accordance with previous coal resource assessments in this region a specific gravity of 1.65 and/or a relative density of <1.72 were used in the coal resource calculations.

- A raw ash content of less than 45%
- Seams less than 0.10m were eliminated
- Mixed intervals of coal, carbonaceous mudstone and non-coal sedimentary rock types were reduced by up to fifty percent in the thickness calculations.
- Coal seams with calorific values of less than 2600Kcal/kg were also considered uneconomic, and were excluded from the estimates of coal resources. However, there are very few analyses available and these deletions have an insignificant effect on the total coal tonnages.
- Inferred Coal Resources were calculated by identifying thicknesses of useable coal from the total number of coal seams in each drill hole. The thicknesses of useable coal seams from all drill holes within a given resource block were averaged and the average thickness for the resource block was multiplied by the specific gravity of 1.65 and by the area in hectares.
- The total amount of coal present (Inventory Coal) was also calculated for each resource block. This was achieved by adding the thicknesses of all coal seams within individual drill holes and averaging the results. The average thicknesses of coal seams within the block were then multiplied by the specific gravity of 1.65 and then by the area in hectares.
- The total Inventory Coal is about one third to one half higher than the Inferred Coal Resource totals and this difference provides an approximate indication of the amount of coal in the resource blocks that is unusable due to high ash content, weathering or contact metamorphism near dolerite intrusives. From Table 1 it can be ascertained that a total Inferred Coal Resource within the nine resource blocks is estimated at 55.46mt and the total amount of Inventory Coal present is approximately 86.28mt. These totals are indicative only, due to the uneven spread and lack of data in some blocks and may be up to 50% above or below the estimates.

1.2. METHODS AND MATERIALS.

Little attention had previously been given to assemble or store the historical and newly generated data in an organised manner. Exploration drilling information was provided in spread sheets in various formats. Historical drilling data was provided in hard copy prints of drill holes lithologies and geophysical logs. Several of these datasets are at different scales and formats. The major task that was undertaken, before any analysis of the data could begin was to create a uniform Geographic Information System (GIS) computer database in MapInfo. By this means all the drill holes (Figs 9 to 46) were presented in a standard format with a common scale, standardised colours and lithological abbreviations. Once this task was completed, the overall picture of coal distribution within this region emerged, through geological interpretation and correlation of rock types and coal seams throughout the area.

2. THE MT ANSTEY COAL PROJECT AREA.

Three potential coal resource blocks are identified in the Mt Anstey Coal Project area and are identified in the accompanying map (Fig. 2) as Blocks 1, 2 & 3. A north to south geological section, 3,300m in length, depicts the geological structure and distribution of coal seams within these coal resource blocks (see Fig. 5.)

2.1. Coal Resource Block 1

Coal resource Block 1 is the most northerly segment of the fault bounded coal containing graben in the Mt Anstey Project Area and has an area of approximately107ha. Drill holes to the west of this block encountered lignite (JC-05A), or were barren of coal (OJ028).The eastern margin of this block is delineated by an extensive area of dolerite.

Coal distribution in Block 1 is known from the driller's lithological log of a single waterbore (No.15181) and through correlation to the south with coal exploratory drill holes in Block 2. The waterbore driller identified four seams with a cumulative thickness of 4m (Table 1). The coal seam intervals reported by the driller were recorded to the nearest one metre. These imprecise data are considered unreliable and the total Inventory Coal was reduced from 7.06mt to provide an estimated Inferred Coal Resource of 3.53mt.

Nothing is known about coal quality in Block 1. However, comparison with sparse coal quality data from Block 2, located to the south, indicates that high ash coal types are dominant and if this is the case, the Inferred Coal Resource may well be lower than estimated.

Four exploratory drill holes are recommended to evaluate the waterbore No 15181 coal occurrences. If successful, coal seams in this area may link southwards with the Inferred Coal Resource in the adjoining Block 2. The locations of the proposed drill holes are as follows:

1 524800E 5316400N
2 524600E 5316100N
3 525000E 5316150N
4 524850E 5315900N

2.2. Coal Resource Block 2.

Seven drill holes provide subsurface data for Block 2 that has an area of approximately 180ha. Drill hole OJ013 is included, although on current geological mapping this drill hole is located a short distance to the east of the block margin. This resource block is fault-bounded and the surface sedimentary geology is obscured in part by outcrops of partly eroded, dolerite sills.

A drill hole geological section was constructed along the length of this block. At the northern end of this cross section OJ001 has six coal seams (Seams A to F) and these progressively diminish southwards to just a single coal seam in OJ017. This reduction in the number of coal seams appears to be related to progressive facies changes and increasing amounts of sandstone in the sedimentary rock sequence.

Only three drill holes in this block (OJ001, OJ013 & OJ008) have information on coal quality. Drill hole OJ001 has four coal seams with only two of these having useable coal. However, the raw ash content of all four seams indicate that a blend containing 41.55% raw ash could be obtained in a mining operation. Drill hole JC-04 has six seams all of which have raw ash levels well above acceptable levels as indicated by the Relative Densities (Range 1.75 to 1.99). Similarly,

the three coal seams in OJ008 have raw ash levels above 70.5%. These data indicate that high ash coals may be prevalent in this resource block and the estimate of an Inferred Coal Resource of 5.7mt may well be too high.

In spite of the lack of reliable Inferred Coal Resource data for this block, further exploratory drilling and coal quality analyses are recommended. The geology of this area appears to be simple and open cut minable depths to coal seams are likely to occur throughout the block. A drill program at approximately 400m centres spacing, is designed to upgrade the Inferred Coal Resource status and to possibly upgrade this resource to Indicated/Measured Coal Resource status. The locations of the proposed drill holes are as follows:

1	525500E	5315600N
2	525300E	5315400N
3	524700E	5315200N
4	525700E	5315200N
5	524900E	5314800N
6	525200E	5314800N
7	525100E	5314500N
8	524850E	5314000N
9	525200E	5314000N
10	525600E	5314000N
11	525200E	5313600N
12	525300E	5313200N
13	525700E	5313200N
14	525500E	5312800N
15	525850E	5312800N

Optional

16	525800E	5314800N
17	525870E	5314400N
18	525950E	5314000N

Although the open mining cut-off depth is expected to be 40 to 50m it is recommended that all drill holes are programmed to 60m to take into account local variations in topography.

2.3. Coal Resource Block 3.

The southern part of the Mt Anstey Coal Project Area has a small (35ha) coal resource block (Block 3) that is known only from driller's data for waterbore No. 15782. This waterbore appears to have penetrated a dominantly arenitic sequence with just two, near surface, coal intervals. Nothing is known of coal quality in this block and coal quality and seam thicknesses have been reduced accordingly, to give an estimated Inferred Coal Resource of 0.87mt.

Additional exploration drilling is only recommended if future drilling data from Block 2 shows an overall improvement in coal quality and an elevated Inferred Coal Resource total. The area to the south of Block 3 has an unknown coal potential and additional drilling could include this area if coal deposits are found near the southern boundary of Block 3.

3. THE JERICHO COAL PROJECT AREA.

The Jericho Coal Project Area (Fig. 3) comprises three potential coal resource blocks (Blocks 4, 5 & 6). On current knowledge the northern part of Block 5 appears to have the greatest potential. Blocks 4 and 6 comprise large areas that have few drill holes and adjoin areas of Sequence 1 rock types where exploratory drilling has shown that coal deposits are absent and were subsequently eroded from these east and west located, uplifted horsts.

Outside of the designated coal blocks, drill hole OJ019 encountered three coal seams in the interval 16.3 to 32.38m with a total coal thickness of 3.32m. This coal occurrence was somewhat unexpected and may indicate a fairly shallow, potential coal resource, pinching out northwards towards OJ024 which is devoid of coal. Accordingly, further exploration drilling is recommended

around OJ019 to see if this area can be upgraded to a coal resource block. Initially three holes should be drilled at the following locations:

1 523700E 5310400N
2 524100E 5310400N
3 523700E 5309950N

3.1. Coal Resource Block 4.

Block 4 is bounded to the west by an inferred northwest trending fault. Drill holes O-05 & OJ023 encountered Sequence 2 stratigraphy and failed to intersect coal. Only a single waterbore located in the south with a recorded 2m coal intersection, provides data for this potential coal resource block. With only this minimal information, Block 4 of 98ha has a very approximate Inferred Coal Resource of 1.62mt. A coal occurrence confirmatory drill hole adjacent to the waterbore is recommended.

The location of this proposed drill hole is: 524650E 5306050N

3.2. Coal Resource Block 5.

There is a concentration of drill holes in the north (OJ007, OJ002, OJ006, JC-08 & OJ010) and in the south (OJ004, PT-04A and water bores 15777 and 4096) where coal occurrences are recorded. Coal also occurs in OJ015 about 100m to the east of this block which may indicate that the fault between this drill hole and OJ004 may have diminished, or disappeared, and coal continuity between the southern parts of Blocks 5 & 6 occurs. There are no data for the large area that comprises the central portion of this block.

A geological section constructed from data from drill holes OJ007, OJ002, JC-08 and PT-04a extends from north to south over an approximate distance of 3.65km (Fig. 6). This section shows that deeper-lying coal seams in the north are gradually elevated southwards towards JC-08. Basement in the area is a dolerite sill which rises towards the surface and crops out south of PT-04a. This sill has a profound effect on coal seams A, B, C & D which are truncated and most probably altered by thermal metamorphism adjacent to the subsurface contact with this igneous intrusive. Seams D, E, F & G are widespread and almost flat-lying between OJ002 and PT-04a and most of this coal lies at depths of less than 35m

In the northern part of Block 5 there are four drill holes with five significant coal seams (Seams C to G) and have coal ranging from 3086 to 5646Kcal/kg and with an average of accessible coal in the uppermost 40m of 4427Kcal/kg (Table 2). In OJ002 the deepest coal (Seam C) is a high ash coal but seams D, E & F comprise useable coals. Seam G, which is in proximity to the land surface, is presumably degraded by weathering, but in adjacent drill holes and extending as far south to JC008, this seam is likely to comprise useable coal.

There is a lack of drill holes in the central part of Coal Resource Block 5. Coal relative density data from JC008 indicates that seams C to D have useable coal, though parts of seams D & E have sectors (coal plys) where the ash content is too high. However, it would seem likely that in a mining situation, a mix of all of these coal types would produce a potential economic blend. If this is the case, then the central part of this resource block has potential for coal over a wide area, at depths generally less than 45m.

In the southern part of Block 5, aggregate coal thicknesses are variable ranging between 1.5 & 3.5m. Relative densities of coal seams D & E in PT-04a range between 1.58 & 1.65, indicating the presence of useable coal. Coal quality has also been assayed from two coal seams (Seams D & E) that occur between 12.8 and 29.12m in OJ004. The uppermost seam (12.80 – 13.94m) has a

calorific value of 4218Kcal/kg. The lowermost seam (28.35 – 29.12m) has a calorific value of 5784Kcal/kg.

Drill hole OJ011 is located at the southern boundary of Block 5 and lies adjacent to the margin of a dolerite sill and encountered only thin, non-economic coal seams.

Although there are uncertainties due to the uneven spread of data, Block 5 is highly rated for the discovery of a potential coal resource that is currently estimated as an Inferred Coal Resource of 16.41mt. Future drilling should initially target the unexplored central sector and followed with infill between existing drill holes. According to the geological drill section (Fig. 6) it is expected that most drill holes will encounter a dolerite sill below the coal measure sequence and coal seams in proximity to this intrusive will be thermally metamorphosed and degraded due to loss of some volatile material.

The locations of the 34 proposed drill holes are as follows:

1	525000E	5309000N
2	524375E	5308700N
3	524650E	5308700N
4	525050E	5308400N
5	524400E	5308300N
6	524450E	5308100N
7	524750E	5308100N
8	525050E	5308100N
9	524450E	5307800N
10	524750E	5307800N
11	525050E	5307800N
12	524450E	5307500N
13	524750E	5307500N
14	525050E	5307500N
15	525350E	5307500N
16	524550E	5307200N
17	524850E	5307200N
18	525150E	5307200N
19	525400E	5307200N
20	524550E	5306900N
21	524850E	5306900N
22	525150E	5306900N
23	525450E	5306900N
24	524650E	5306600N
25	524950E	5306600N
26	525250E	5306600N
27	525500E	5306600N
28	524650E	5306300N
29	524950E	5306300N
30	525250E	5306300N
31	524850E	5306000N
32	525150E	5306000N
33	524850E	5305700N
34	525150E	5305700N

3.3. Coal Resource Block 6.

Block 6 appears likely to comprise the lower part of Sequence 2 stratigraphy. Coal seams (Seams A, B & C) identified in JC-07 & JC-06 may link with those in OJ015 located about 1.5km to the south, where an aggregate of 1.56m of coal occurs. The gamma ray log of this drill hole accurately identifies the depth at 29m where thermal metamorphic alteration of sandstone occurs above a dolerite intrusive.

This large block of about 366ha contains only two drill holes, namely JC-06 & JC-07. Coal thicknesses average 0.64m and if this thickness is consistent throughout the resource block then a potential Inferred Coal Resource of 3.86mt could occur.

A geological cross section linking JC-07 and JC-06 over a distance of about 840m (Fig. 7) indicates an almost flat-lying sedimentary rock sequence containing three, evenly spaced, coal seams. These seams, identified as Seams A, B & C may not be the exact equivalents of coal seams A, B & C that occur in Block 5 to the west. Relative density measurements of coal are available for coal intersections in both drill holes and indicate that most comprises high ash coal types. Only small intervals within Seam A contain useable coal.

Coal Resource Block 6 is considered as a low priority for further exploration. The disadvantages are the apparent widespread presence of high ash coals. On the other hand, exploration advantages relate to the simple geology and ease of correlation between the two existing, relatively widely spaced, drill holes. If these simple geological conditions persist throughout the resource block, then it is possible that a large coal resource may occur in the uppermost 40m. Successful drill holes located near the fault that separates Block 5 and Block 6, and identification of useable coal types, may provide encouragement to extend exploration into Block 6

The locations of the 10 proposed drill holes are as follows:

1	525400E	5308400N	6	525650E	5307500N
2	525650E	5308400N	7	525950E	5307500N
3	525650E	5308100N	8	525650E	5307200N
4	525400E	5307800N	9	525650E	5306900N
5	525650E	5307800N	10	525750E	5306600N

4. THE RINGWOOD CREEK COAL PROJECT AREA

The Ringwood Creek Coal Project Area comprises a north-trending, graben-like, fault-bounded structure comprising Sequence 1 stratigraphy and containing widespread coal measures (Fig. 4). The graben is segmented by at least three northeast directed faults which provide boundaries to the three identified, potential coal resource blocks.

4.1 Coal Resource Block 7.

Coal Resource Block 7 is bounded to the north by a northeast dipping dolerite sill that separates this block from Coal Resource Block 5. This block is bounded to the east and west by outcropping dolerite and faults along its northern and southern margins. The central zone of about 69ha comprises Sequence 2 stratigraphy that has a coal resource potential. There are no drill holes in this area and the approximate estimate of an Inferred Coal Resource of 3.59mt assumes continuation of the coal measures from Block 5, located to the north.

Geological cross sections produced by CRA (Summons, 1984) indicate continuity of the coal measure sequence through Block 7 and into a down-faulted segment, where the coal measures lie at depths between 40 and 57m in the northern part, and 35 to 52m in the southern part.

Because coal resources in Blocks 5 & 9 are highly rated for potential economic coal resources this unknown intervening area, comprising Block 7 and its southerly located fault bounded area, warrants initial exploration. Reconnaissance exploration drilling recommended for Block 7 and within its southerly located, down faulted segment. The positions of five drill holes are listed below:

1. 525180E 5304850N
2. 525250E 5304430N
3. 525050E 5303400N
4. 525040E 5303140N
5. 525120E 5302360N

4.2. Coal Resource Block 8.

Block 8 lies within a fault-bounded graben segment and occupies an area of about 98ha. There are only two drill holes in this block, namely PT-05 & OJ012.

The geological section of drill holes (Fig. 8) shows that PT-05 encountered significant coal seams with an aggregate thickness of 4.02m and that the lower part of this coal measure sequence disappears southwards and thins towards a dolerite intrusive in OJ012. This drill hole is located close to the fault-bounded southern margin of Block 8 and intersected only 1.68m of coal. This result indicates that this drill hole penetrated only part of the coal measures before the fault and dolerite cut off this sequence.

There are no coal quality data for this area and the estimated Inferred Coal Resource of 4.08mt is based on the similarity with the geology with Block 9 located to the south.

The relatively thick coal occurrence in PT-05 and the truncated sequence in OJ012 are of interest and a further three drill holes are recommended to establish continuity, thickness, dip and strike, and coal quality in this area.

1 525600E 5301600N
2 525300E 5301350N
3 525400E 5301050N

4.3. Coal Resource Block 9.

This relatively large block of approximately 251ha contains 6 drill holes and has an Inferred Coal Resource of 15.8mt.

The geological section of drill holes (Fig. 8) extends southwards from its boundary with block 8 along the axis of this block for a distance of about 2,650m.

Drill hole OJ003 in the north contains four coal seams above 28m. Of interest, is the dolerite 'basement' at a depth of 40m and a small dolerite intrusive between 9 & 10m. Pervasive thermal alteration appears to have altered the coal in the basal part and only the coal above 12.32m is useable.

The correlation of rock units southwards shows that the sequence thickens and according to the lithological logs the sequence becomes sandier in the vicinity of OJ022 and OJ021. The gamma ray logs indicate that lithological interpretation of dominant sandstone facies in this area is in error, as the graphs are biased towards the right, indicating higher radioactivity characteristic of lutites or at least a clay rich sandstone sequence. Unfortunately, these two drill holes were only chip sampled every metre and intersections of coal were not precisely recorded. As a consequence, there are no coal quality data for the northern and central zones of this coal block.

Drill hole PT-06 penetrated three coal intervals above 35m and fifteen relative density measurements were calculated from the geophysical density logs (Summons, 1984). The results show that the basal two seams between 49.8 and 33.1 have high ash contents and those above15.5m have useable, or marginally useable, coal.

This coal resource block is rated quite highly for its potential to contain a large economic coal resource. Unfortunately, the available data are sparse and the drill holes are inappropriately located or are poorly logged. In spite of these deficiencies, an in-depth exploratory drilling program is recommended for this block. The locations of 31 proposed exploration drill holes are referenced below and shown in Figure 4.

1	525800E	5301050N
2	525300E	5300750N
3	525800E	5300750N
4	525150E	5300450N
5	525450E	5300450N
6	525900E	5300450N
7	525300E	5300150N
8	525600E	5300150N
9	525900E	5300150N
10	525200E	5299850N
11	525500E	5299850N
12	525800E	5299850N
13	526050E	5299850N
14	525200E	5299550N
15	525500E	5299550N
16	525800E	5299550N
17	525200E	5299250N
18	525500E	5299250N
19	525800E	5299250N
20	525200E	5298950N
21	525500E	5298950N
22	526000E	5298950N
23	525300E	5298650N
24	525600E	5298650N
25	525900E	5298650N
26	525400E	5298350N
27	525700E	5298350N
28	526000E	5298350N
29	525550E	5298050N
30	525850E	5298050N
31	526200E	5298050N

5. CONCLUSIONS & RECOMMENDATIONS.

Nine coal resource blocks have been identified in the Mt Anstey, Jericho and Ringwood Creek Coal Project areas. The spread of data along the north to south trending graben, in which these potential coal resources occur, are very uneven. However, in light of present knowledge, Coal Resource Block 5 in the Jericho Project Area is regarded as the priority area for further exploration and has an **Inferred Coal Resource of 16.41mt**. Further exploration is aimed at delineating a JORC compliant 10 to 20mt Indicated/Measured Coal Resource in this area.

Coal Resource Block 9, in the Ringwood Creek Coal Project Area, is second on the list of priority areas and has an **Inferred Coal Resource of 15.8mt**. Further exploration is targeting an Indicated/Measured JORC compliant coal resource in excess of 10mt in this area.

In the Mt Anstey Coal Project Area, Coal Resource Block 2 has a somewhat questionable **Inferred Coal Resource of about 5.7mt** and lies in third place for exploration priority. The uncertainty pertaining to the prospectivity in this area is due to the probable dominance of high ash, unusable coal types.

The remaining areas have low priorities for exploration. However, further drilling is recommended in most areas, because data are missing, inconclusive, or are insufficient to make recommendations. In some areas there remains a possibility that identified resources in adjacent blocks could be amalgamated to achieve the minimal 10mt requirement.

Insufficient coal quality analyses have been undertaken, and available analyses show variations in coal quality within seams and between individual seams in any given area. The coals are generally heavy and dull, low volatile matter and have high ash and consequent high specific gravities. In places there appears to be scope for the blending of coal seams and washing of coal to provide a coal product that has less than 45% raw ash.

It will not be necessary to drill all of the exploration drill holes specified for each coal resource block, particularly if the early results from the first few drill holes are unfavourable. The drilling program for each resource block needs to be closely supervised by the onsite geologist who should make day to day decisions to prioritise favourable areas and to avoid parts of the drill grid which are devoid of coal. Such areas may include unexpected intersections of dolerite, fault zones, or where the coal seams become too deep or are too thin for economic extraction. Reduction of holes

in one area may be compensated by additional drill holes in another area. These may include areas where drilling data are uncertain due to loss of core, or areas where coal seams extend across coal resource block boundaries.

Although these heavy coal seam types are not indicated in gamma ray logs, previous logging has demonstrated that the sequence stratigraphy as a whole is clearly evident in characteristic curves in the graphs and depicts thermally altered zones with precision (Senior, 2013 & 2014). As a consequence, gamma ray logging is a valuable aid to correlation of rock units between drill holes and in delineating zones of altered coal in the vicinities of dolerite intrusives. Gamma ray logging should be undertaken as soon as possible after completion of individual drill holes. These logs can be run through the drill stem, which ensures that the total depth of the hole is reached. Careful lithological and gamma ray logging and planning ahead for subsequent drill holes, can assist in reducing drilling costs by ensuring that areas that have little coal potential are not inadvertently drilled.

The MapInfo GIS database should be maintained to ensure continuity and conformity in future data acquisitions. Ideally this database would be updated daily as exploratory drilling proceeds. Rented office space at Oatlands, or at a local farm, would facilitate daily production of graphical drill logs and day to day operational project management.

Because all of the proposed exploration activities lie within flat plains of the graben comprising the Mt Anstey, Jericho and Ringwood Creek Coal Project Areas, it is important that future drilling takes place in the drier months. This tactic will reduce incidents of vehicles being bogged in the wet soils and swamps that are prevalent in the project areas.

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FIG. 1. LOCATION MAP AND LOCATIONS OF THE OJ SERIES DRILL HOLES

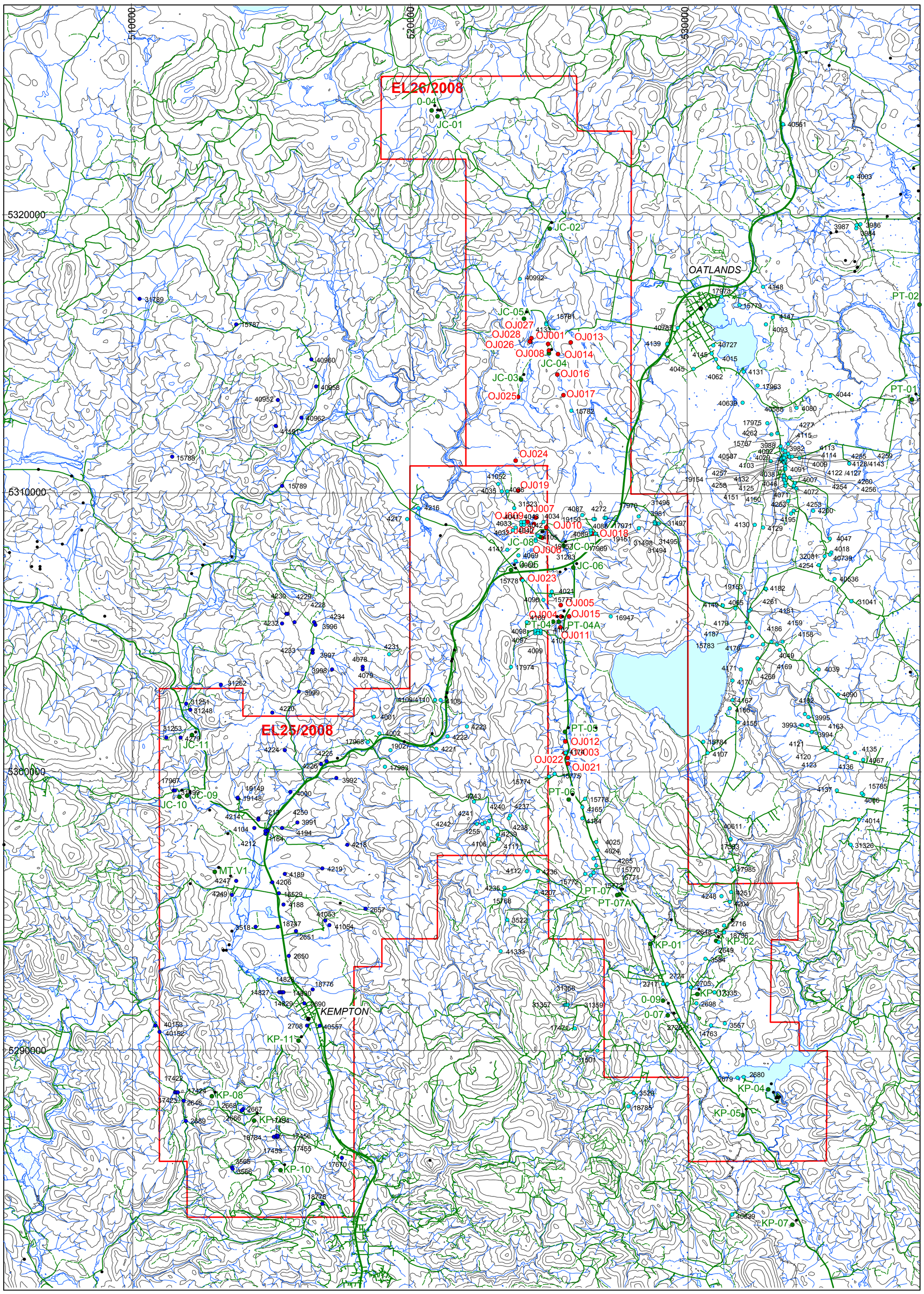


Fig. 2. The Mt Anstey Coal Project Area.

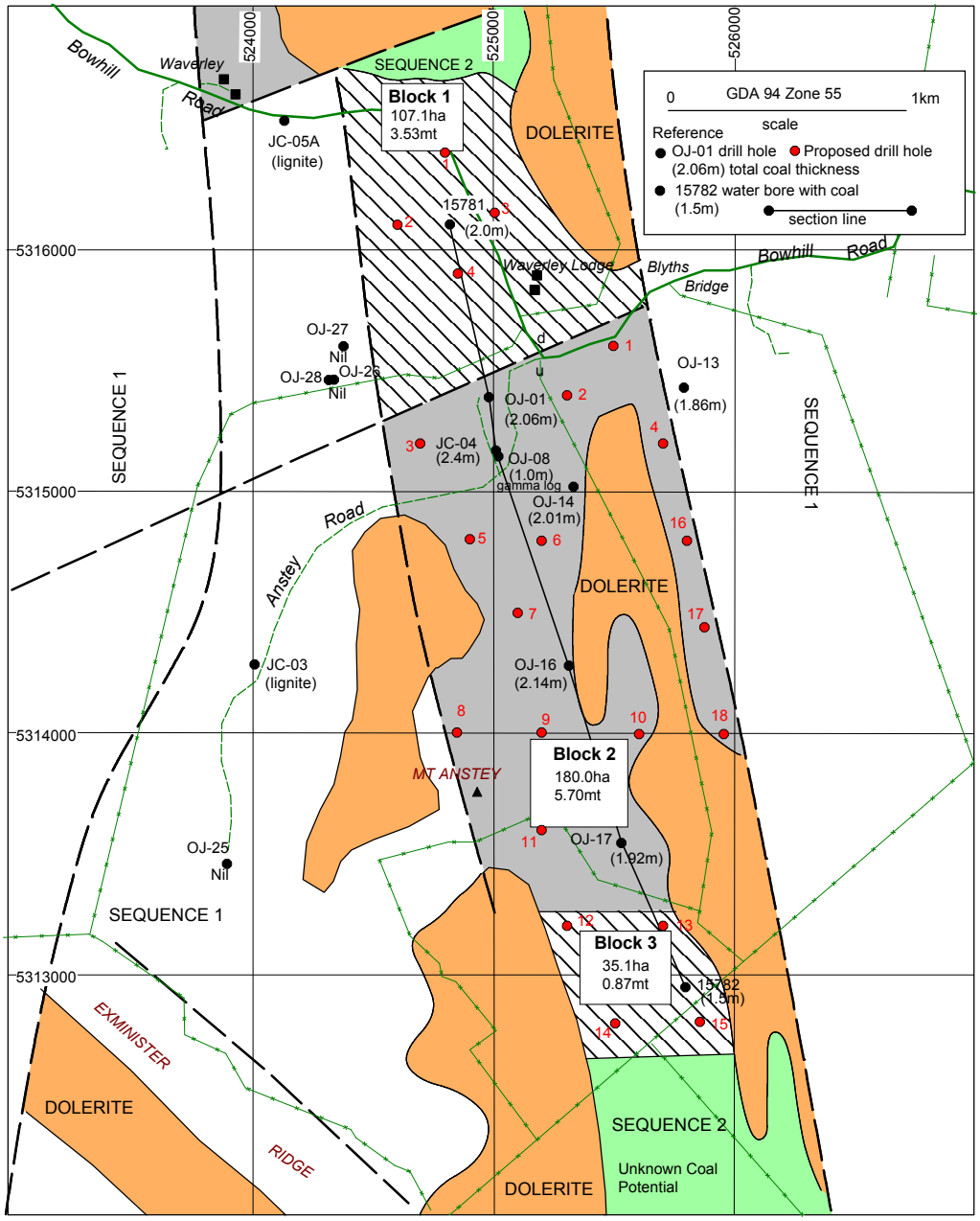
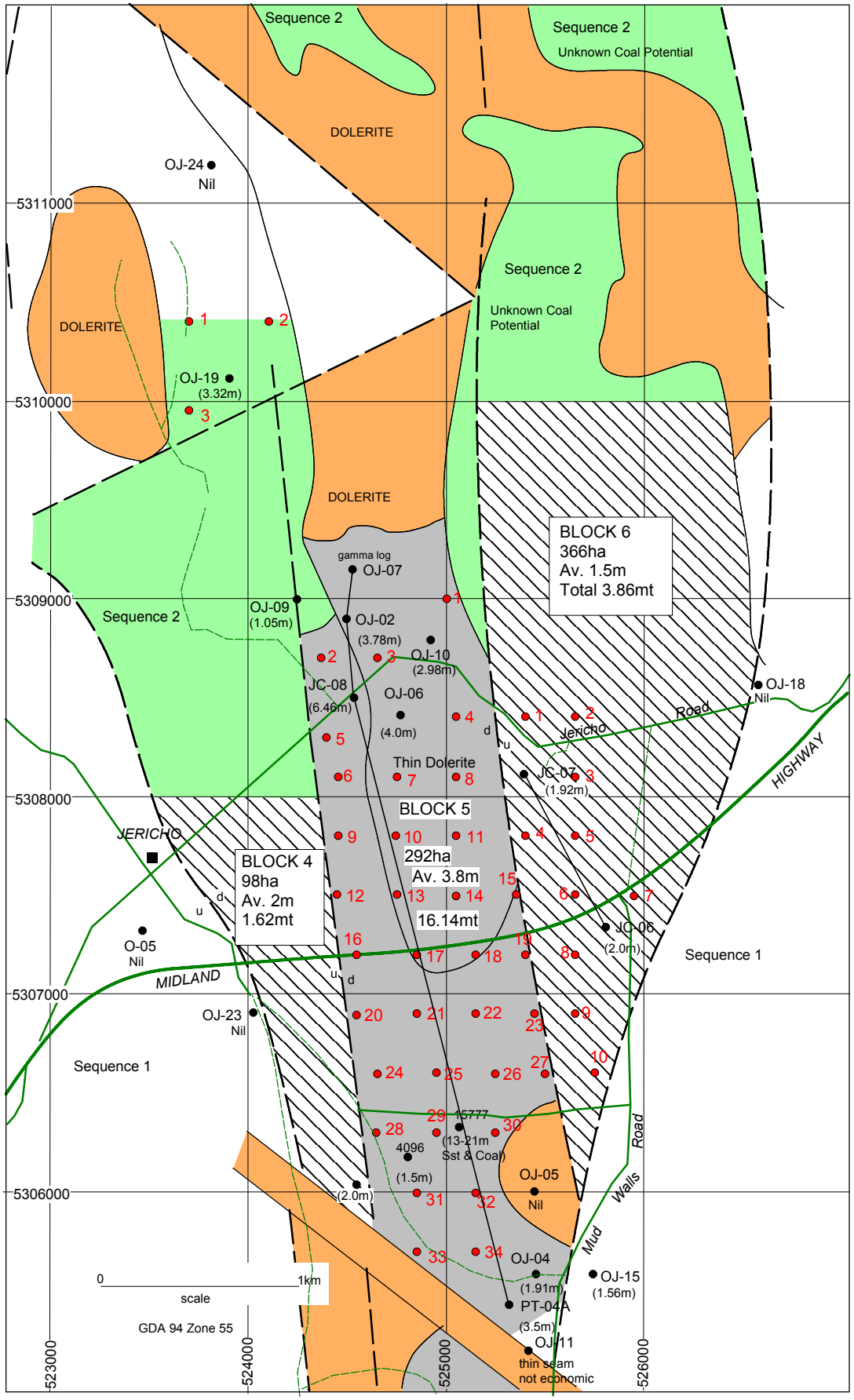


Fig. 3. The Jericho Coal Project Area.



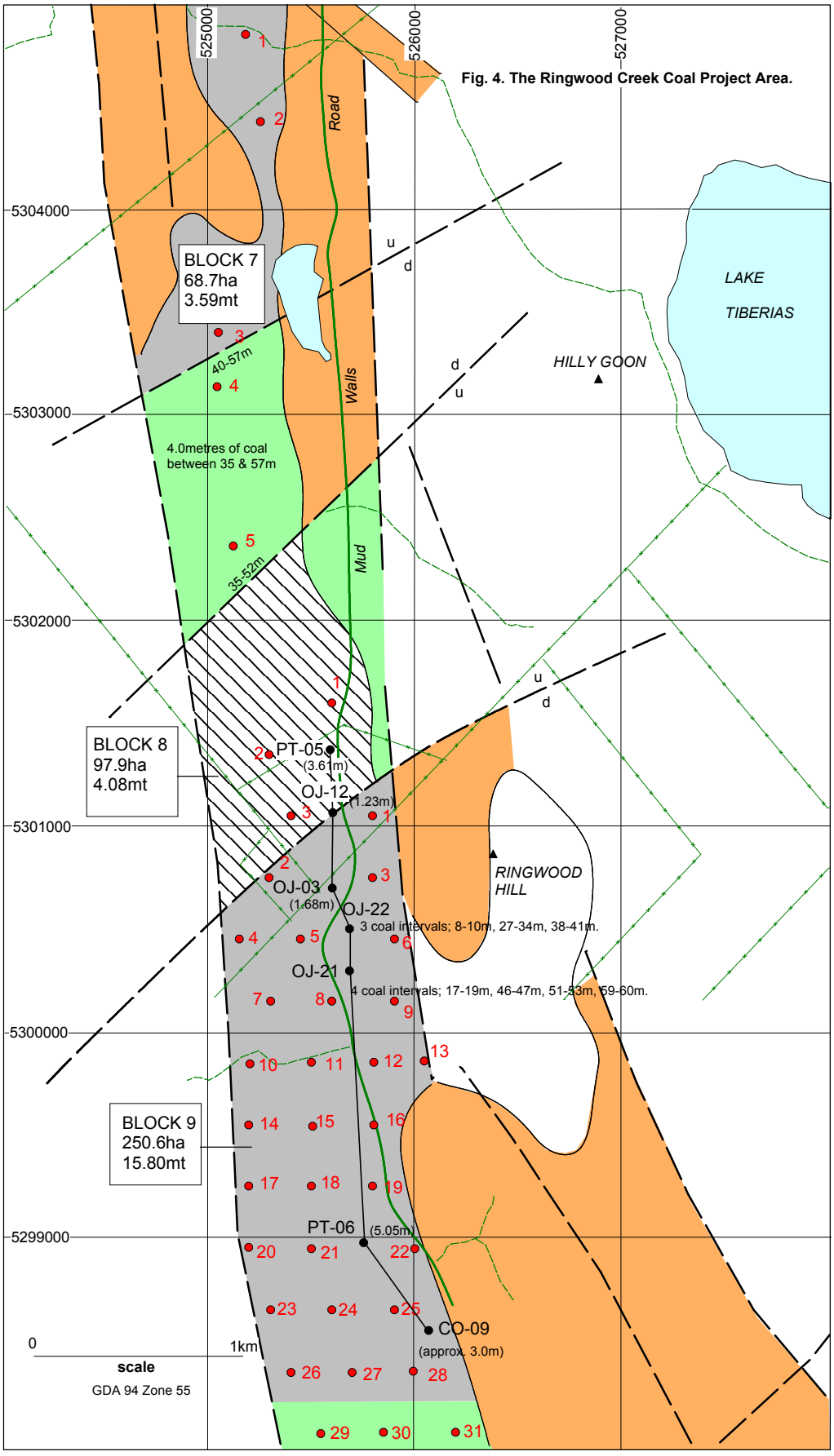


Fig. 4. The Ringwood Creek Coal Project Area.

FIG. 5. MT ANSTEY COAL PROJECT AREA, COAL RESOURCE BLOCKS 1, 2 & 3 GEOLOGICAL DRILL SECTIONS

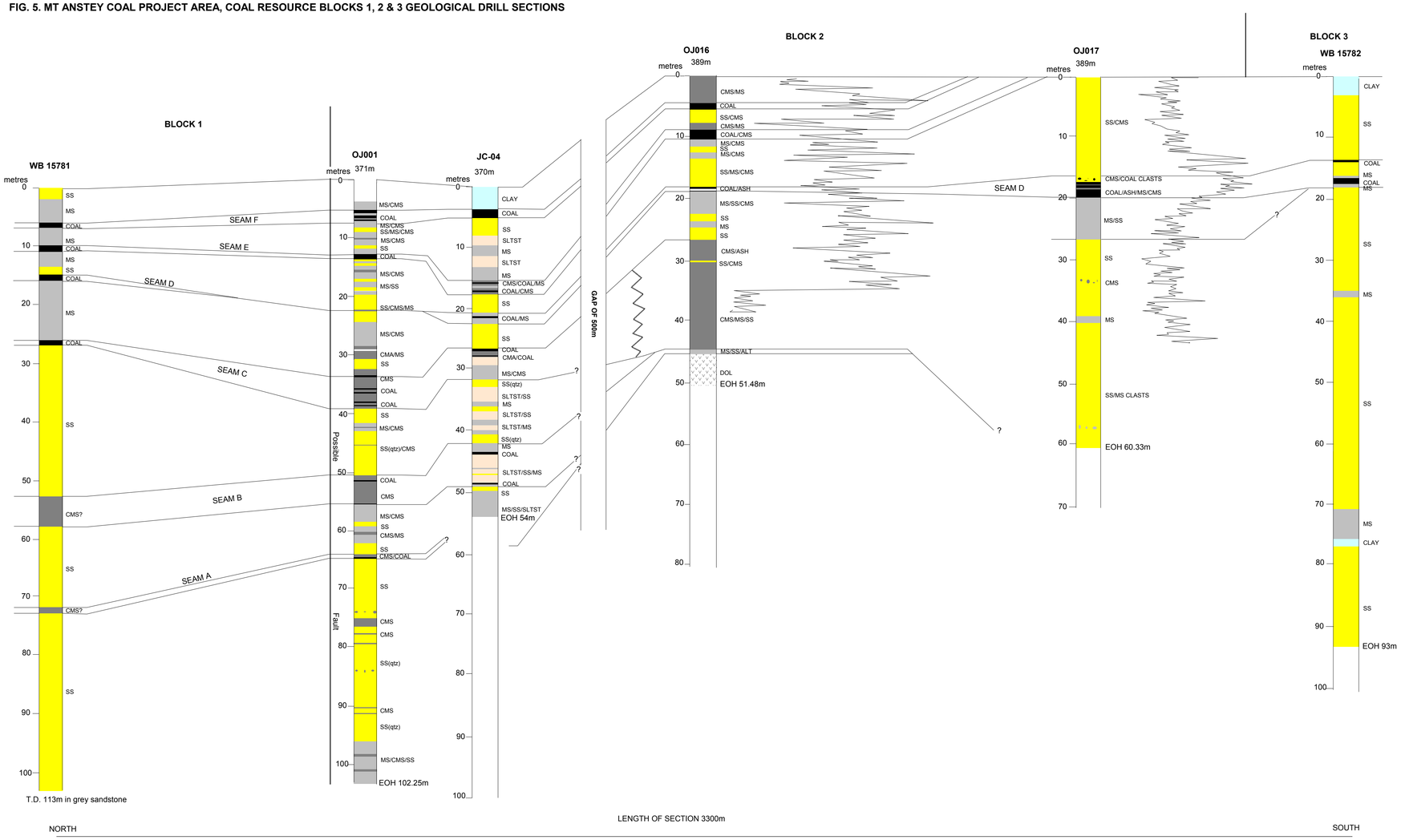


FIG. 6. JERICHO COAL PROJECT AREA, COAL RESOURCE BLOCK 5 GEOLOGICAL DRILL SECTIONS.

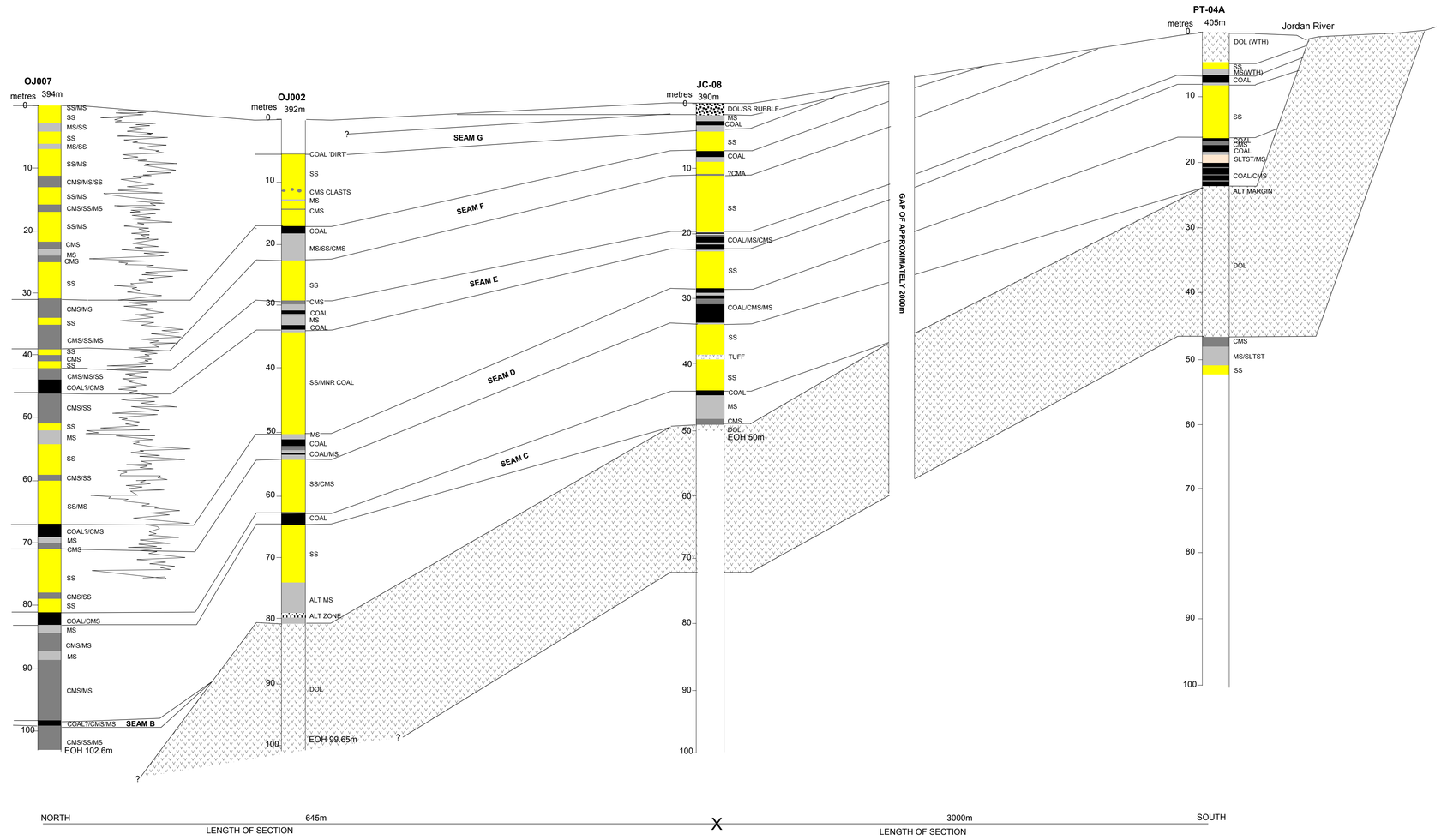


FIG. 7. JERICHO COAL PROJECT AREA, COAL RESOURCE BLOCK 6 GEOLOGICAL DRILL SECTIONS.

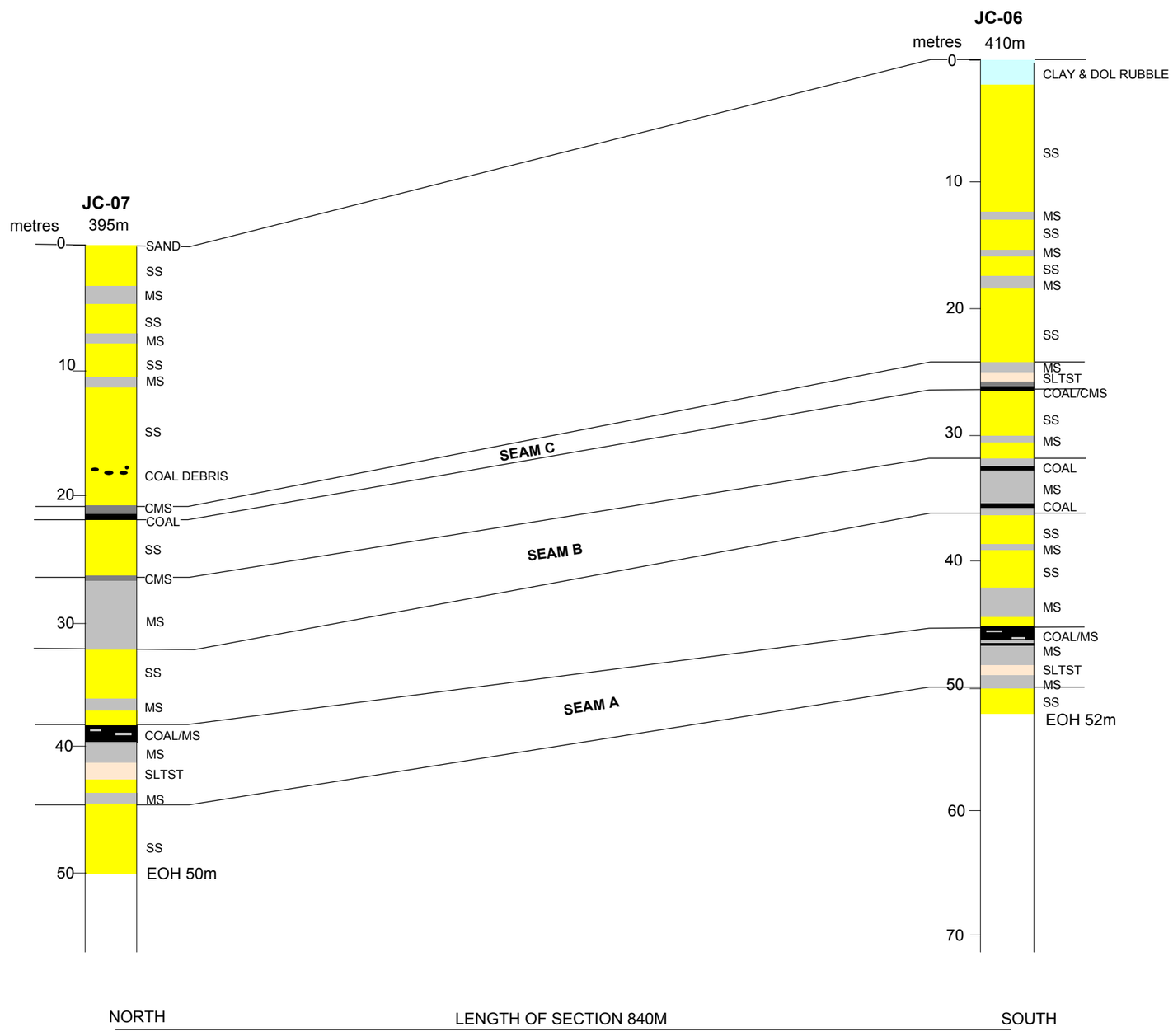
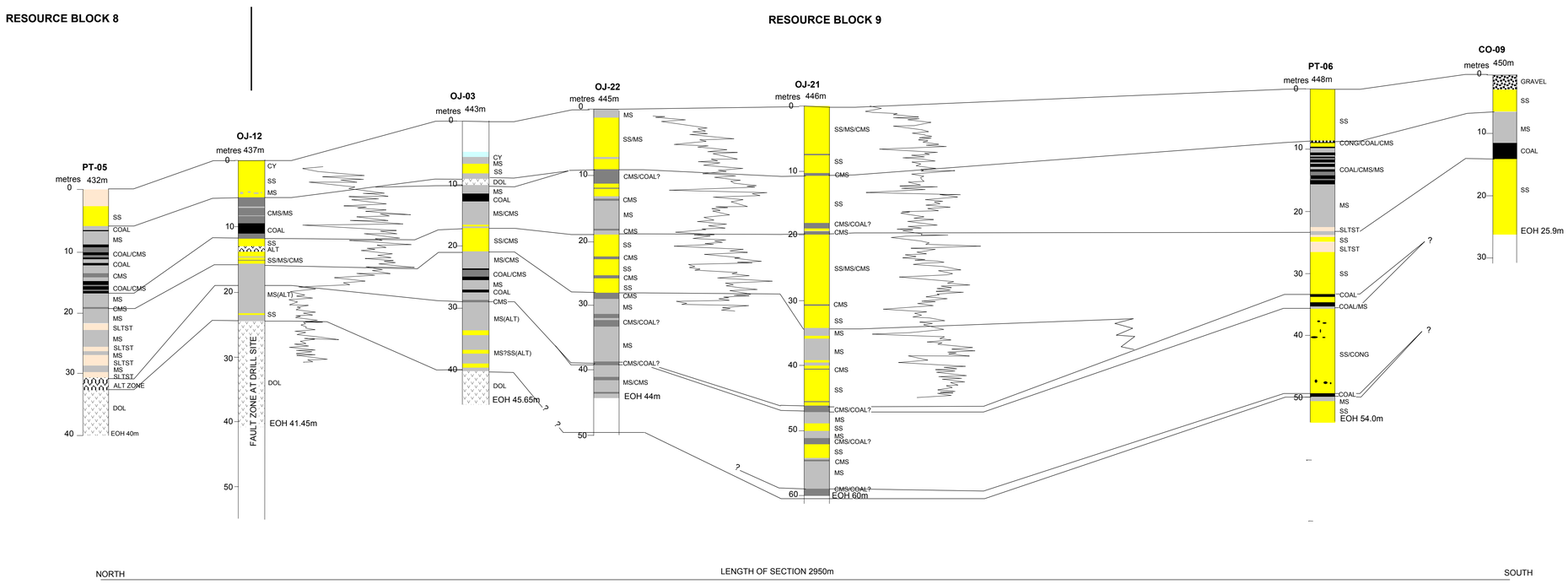
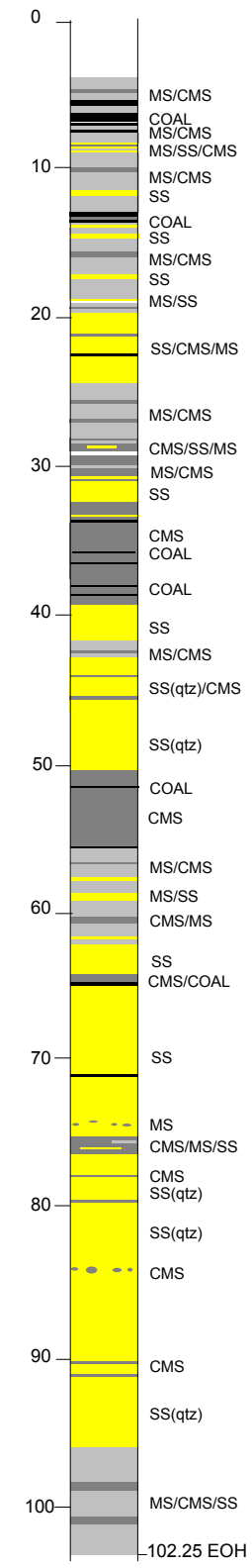


FIG. 8. RINGWOOD CREEK COAL PROJECT AREA, COAL RESOURCE BLOCKS 8 & 9 GEOLOGICAL DRILL SECTIONS.



HOLE: OJ001

Zone: 55
5249882E
5315385N
Elevation: 371m



5.4-5.9 Zonally weathered coal & carbonaceous mudstone
6.2-7.1 Broken, moderately bright coal
7.38-7.4 Brittle vitric coal

12.98-13.64 Heavy zonally bright coal

Minor heavy dull coal & vitric coal banding

51.22-51.27 Dull coal, 10% vitrinite

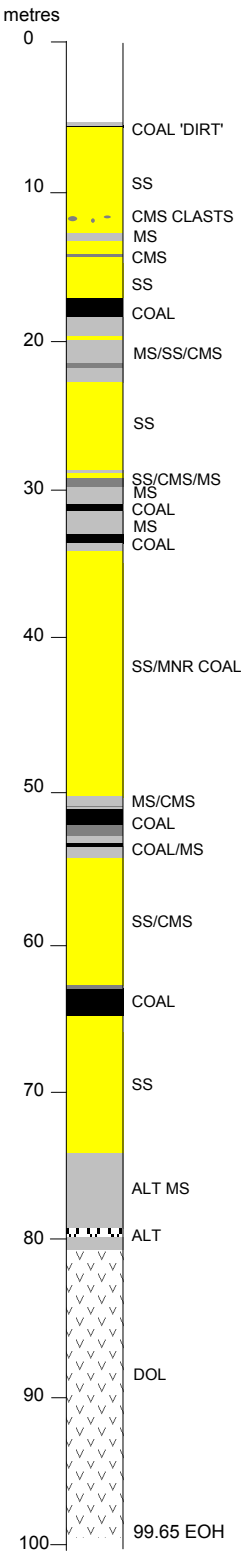
55.33-55.44 Bright vitric coal with some carbonaceous mudstone bands
55.45-55.54 Brittle, moderately bright coal

64.79-64.87 Bright broken coal. 90% vitrinite
64.87-64.97 Carbonaceous mudstone & minor coal

71.29-71.4; 71.54-71.55 Vitric coal bands

FIG. 9. LITHOLOGICAL LOG OF OJ001

HOLE: OJ002



Zone: 55
524507E
5308900N
Elevation: 392m

5.63-5.82 coal 'dirt'

17.15-18.37 minor bright coal with calcite

31.05-31.6 moderately bright coal with calcite
31.90-33.7 coal with calcite veining & vitric bands

43.24-44.55 irregular coal-calcite 'veins' in sandstone

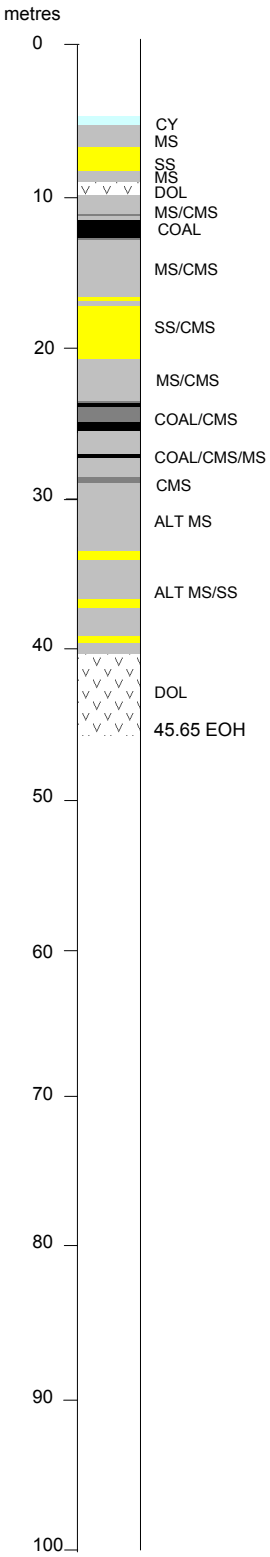
50.94-51.88 coal grading from dull & moderately heavy to moderately bright with vitic bands & calcite veining
53.06- 53.13 vitric coal bands

62.98-64.96 dull moderately heavy coal with carbonaceous mudstone & calcite veining

FIG. 10. LITHOLOGICAL LOG OF OJ002

HOLE: OJ003

Zone: 55
525602E
300695N
Elevation: 443m



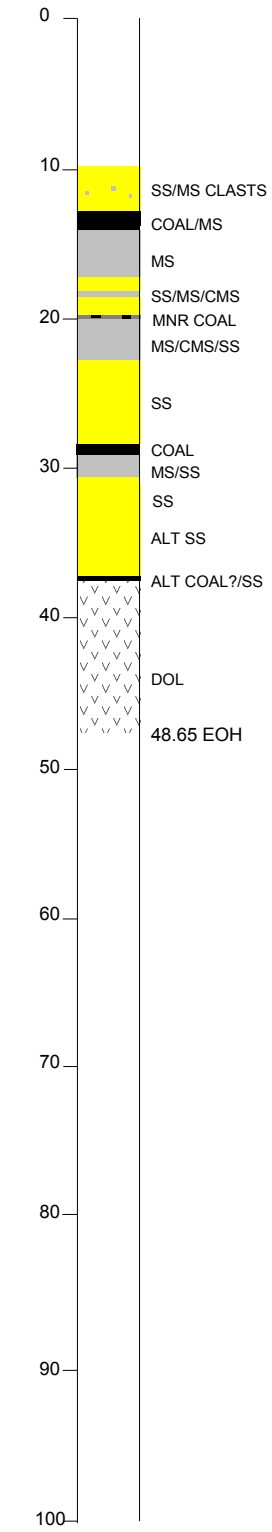
11.66-11.75 weathered broken coal
11.75-12.32 moderately bright coal; 40-50% vitrinite, calcite veining

23.64-23.73 dull coal with minor calcite
24.90-25.01 dominantly dull coal, minor calcite
25.03-25.14 dull coal, minor carbonaceous mudstone
25.14-25.31 minor bright coal with calcite
25.31-25.52 dull coal with carbonaceous mudstone

FIG. 11. LITHOLOGICAL LOG OF OJ003

HOLE: OJ004

Zone: 55
525451E
305593N
Elevation: 407m



12.62-13.43 coal & vitrinite, weathered coal, bright brittle coal, dull moderately heavy coal up to 5% vitrinite

19.9-19.97 minor bright coal with vitrinite banding

28.35-29.10 dull moderately heavy coal, weathered coal band, up to 5% vitrinite

FIG. 12. LITHOLOGICAL LOG OF OJ004

HOLE: OJ005

Zone: 55
525447E
306001N
Elevation: 416m

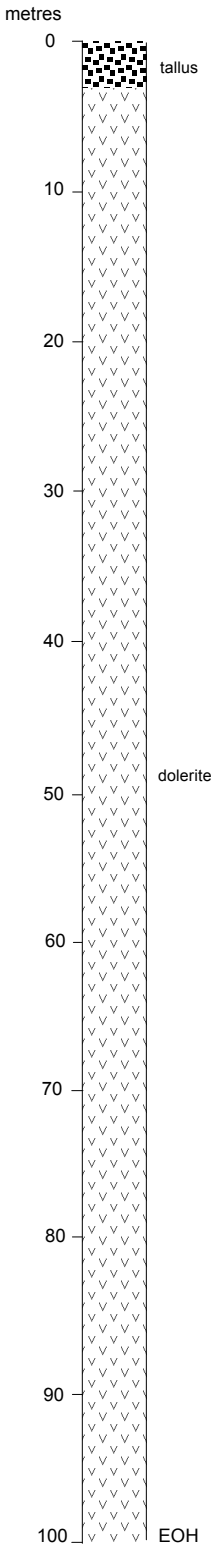


FIG. 13. LITHOLOGICAL LOG OF OJ005

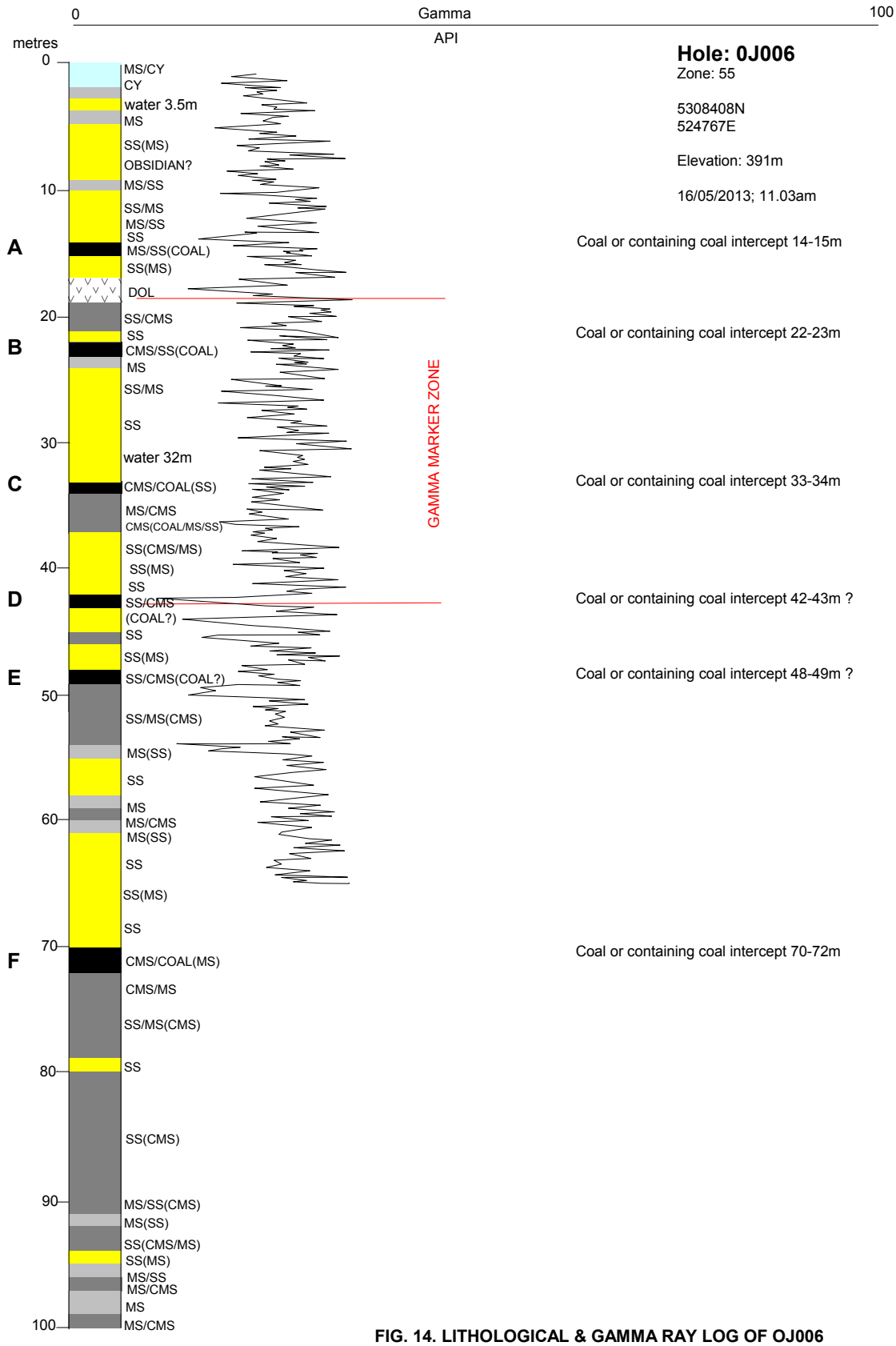


FIG. 14. LITHOLOGICAL & GAMMA RAY LOG OF OJ006

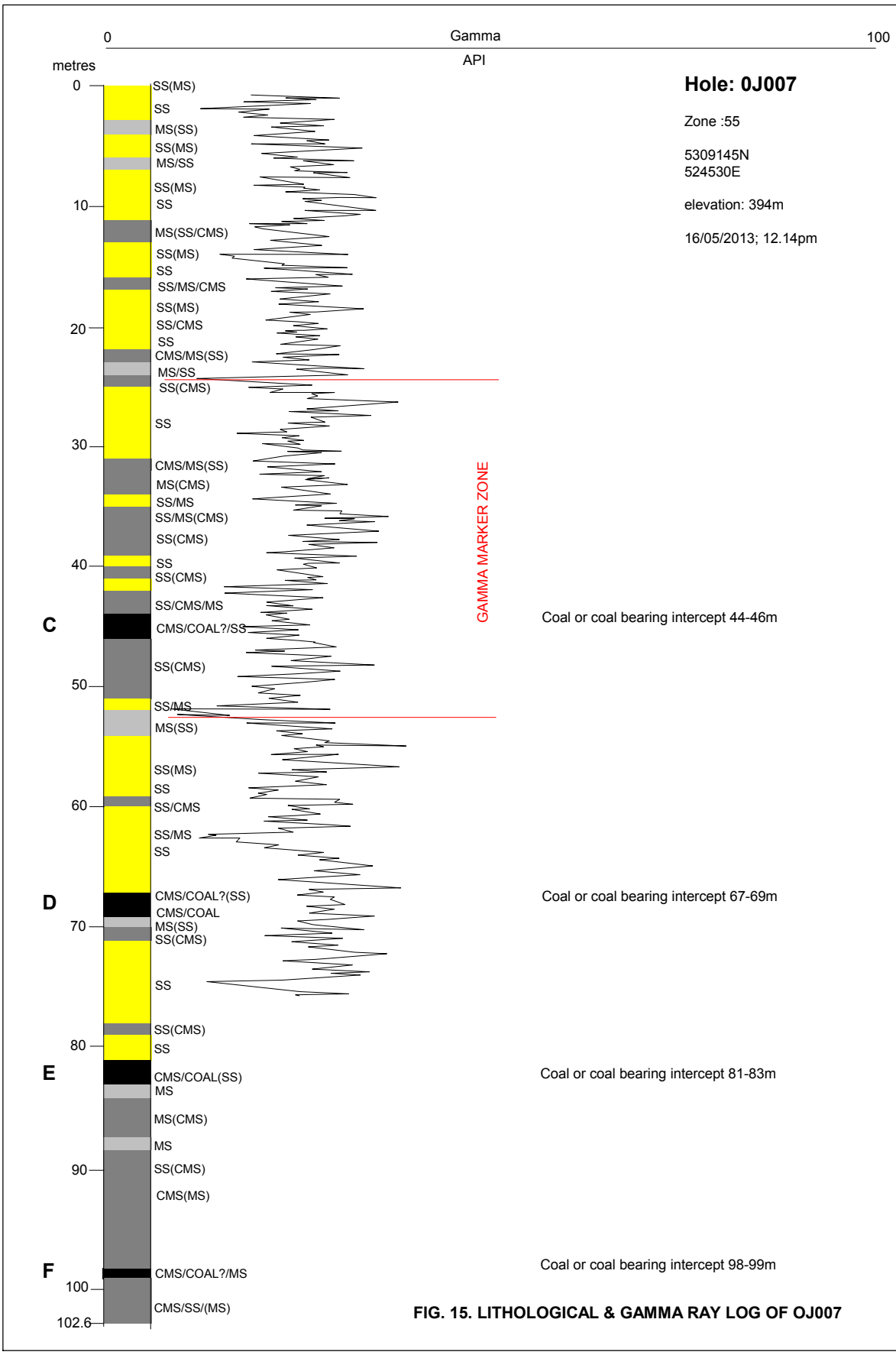


FIG. 15. LITHOLOGICAL & GAMMA RAY LOG OF OJ007

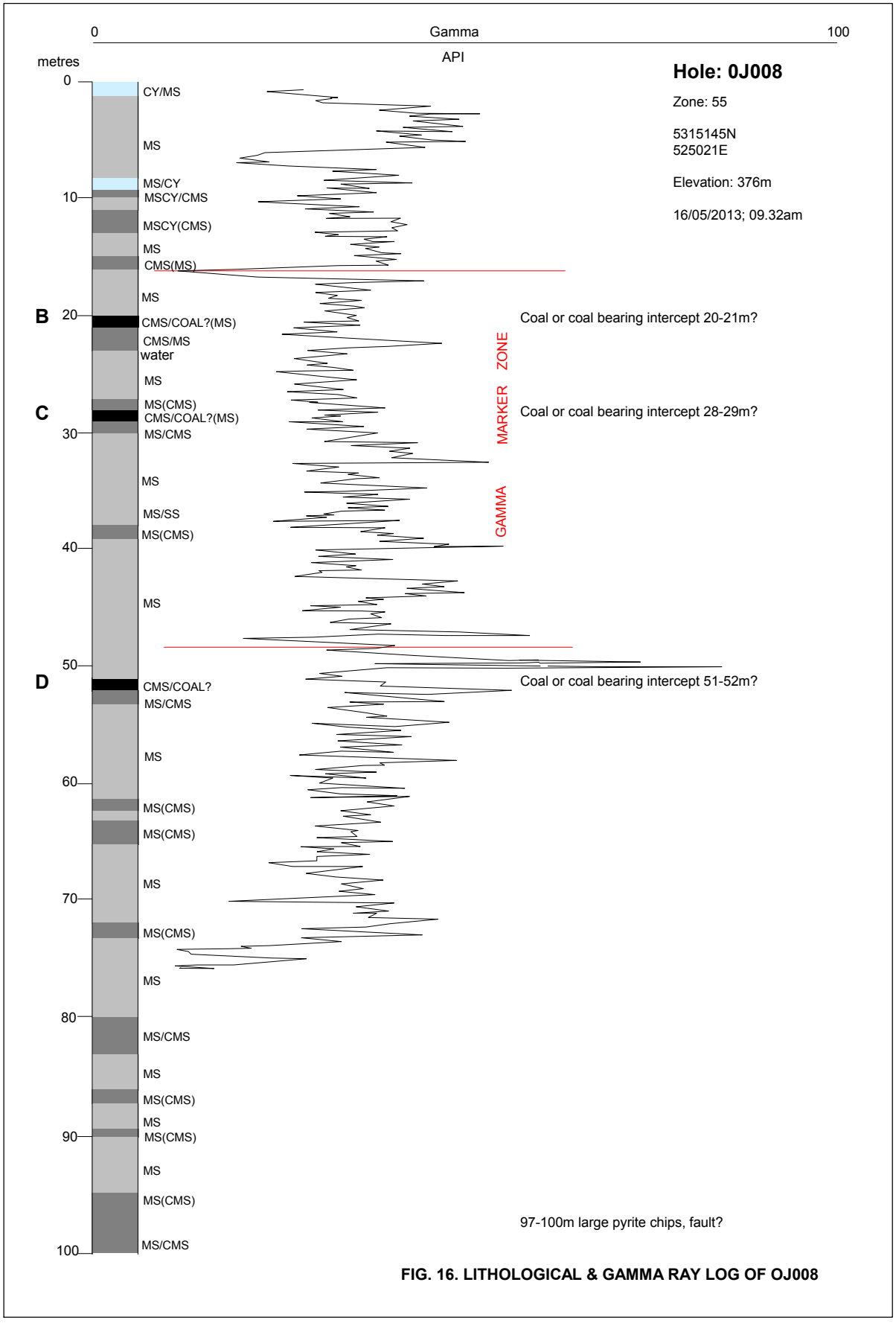


FIG. 16. LITHOLOGICAL & GAMMA RAY LOG OF OJ008

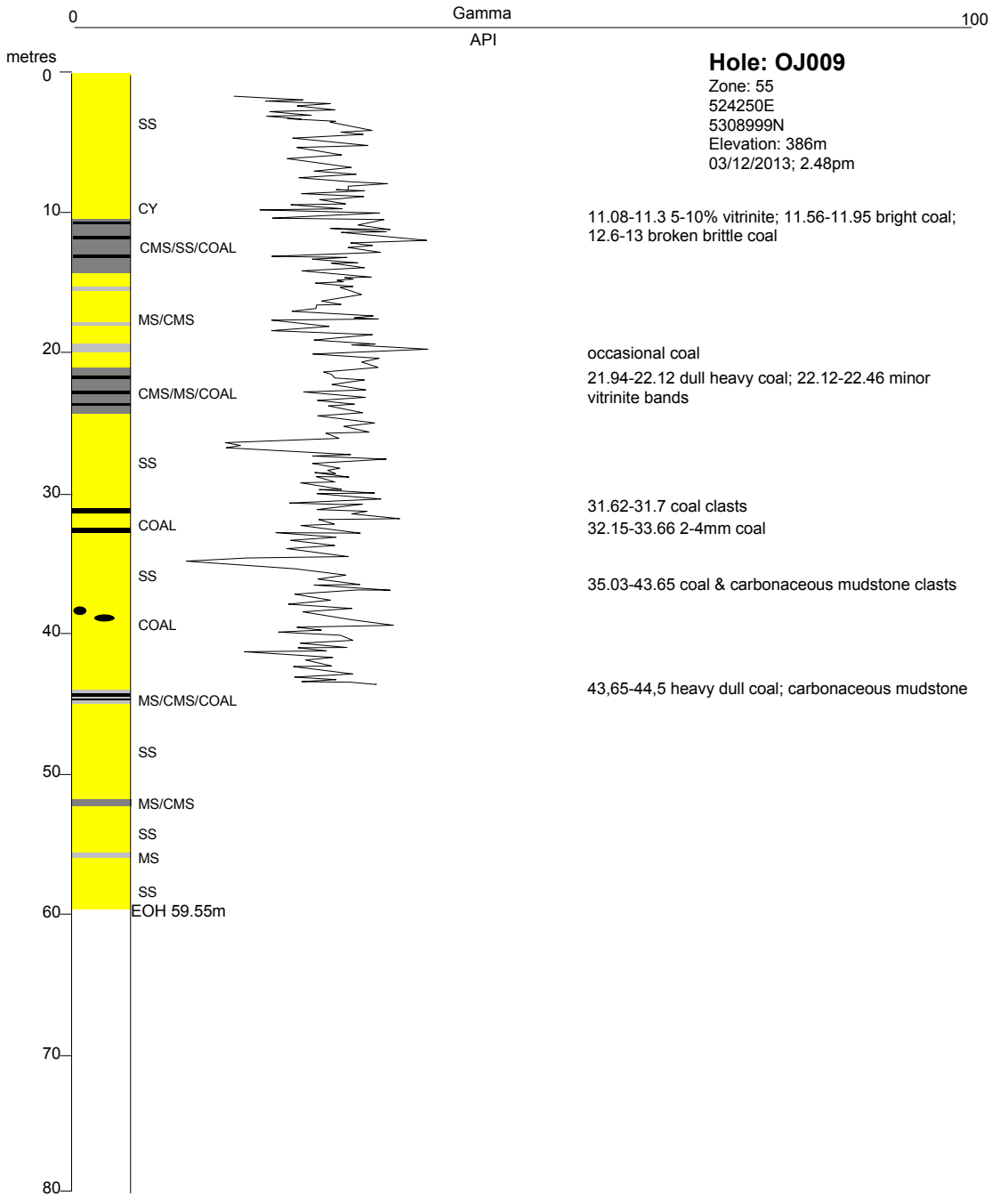


FIG. 17. LITHOLOGICAL & GAMMA RAY LOG OF OJ009

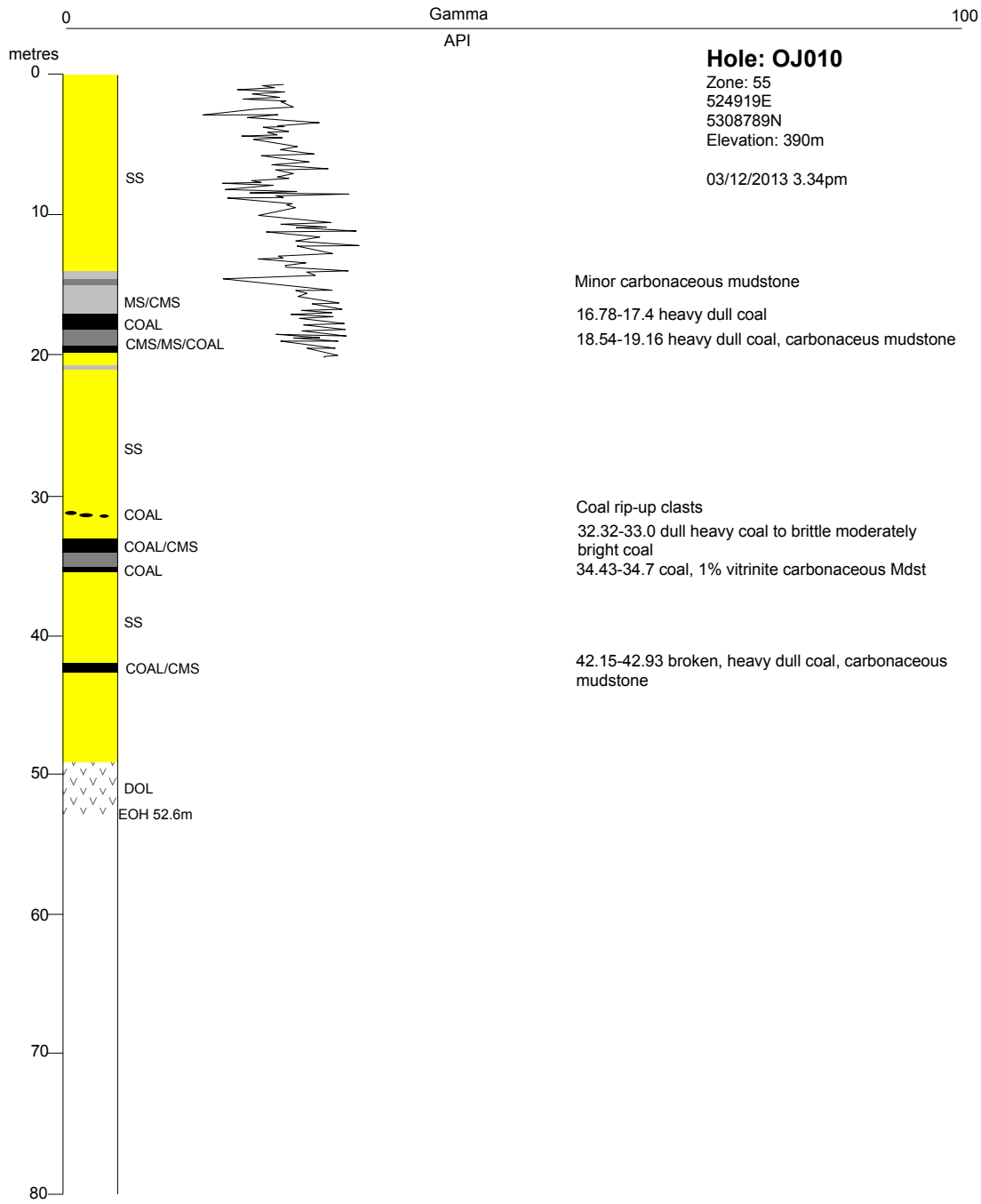


FIG. 18. LITHOLOGICAL & GAMMA RAY LOG OF OJ010

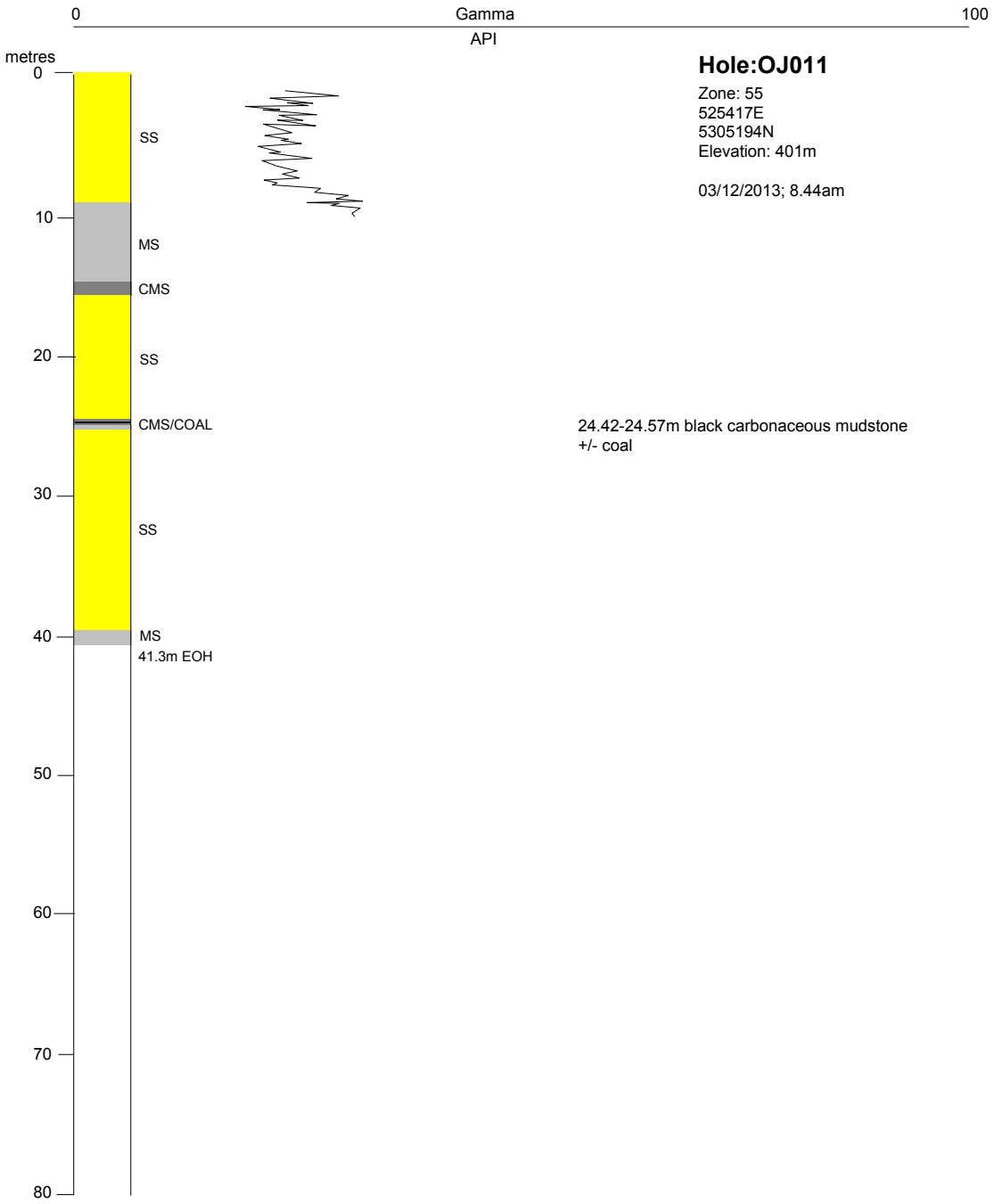


FIG. 19. LITHOLOGICAL & GAMMA RAY LOG OF OJ011

Hole: OJ012

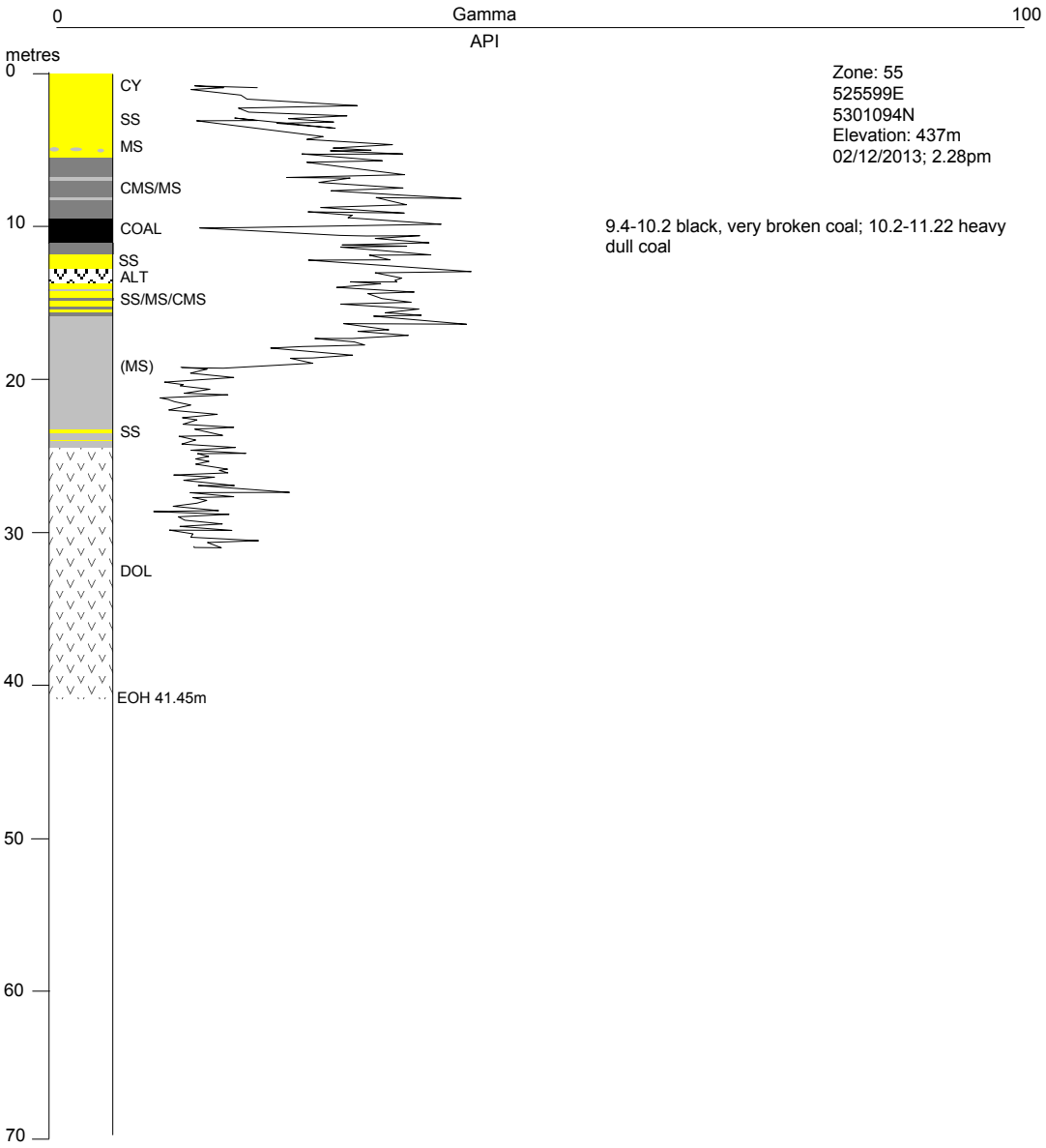


FIG. 20. LITHOLOGICAL & GAMMA RAY LOG OF OJ012

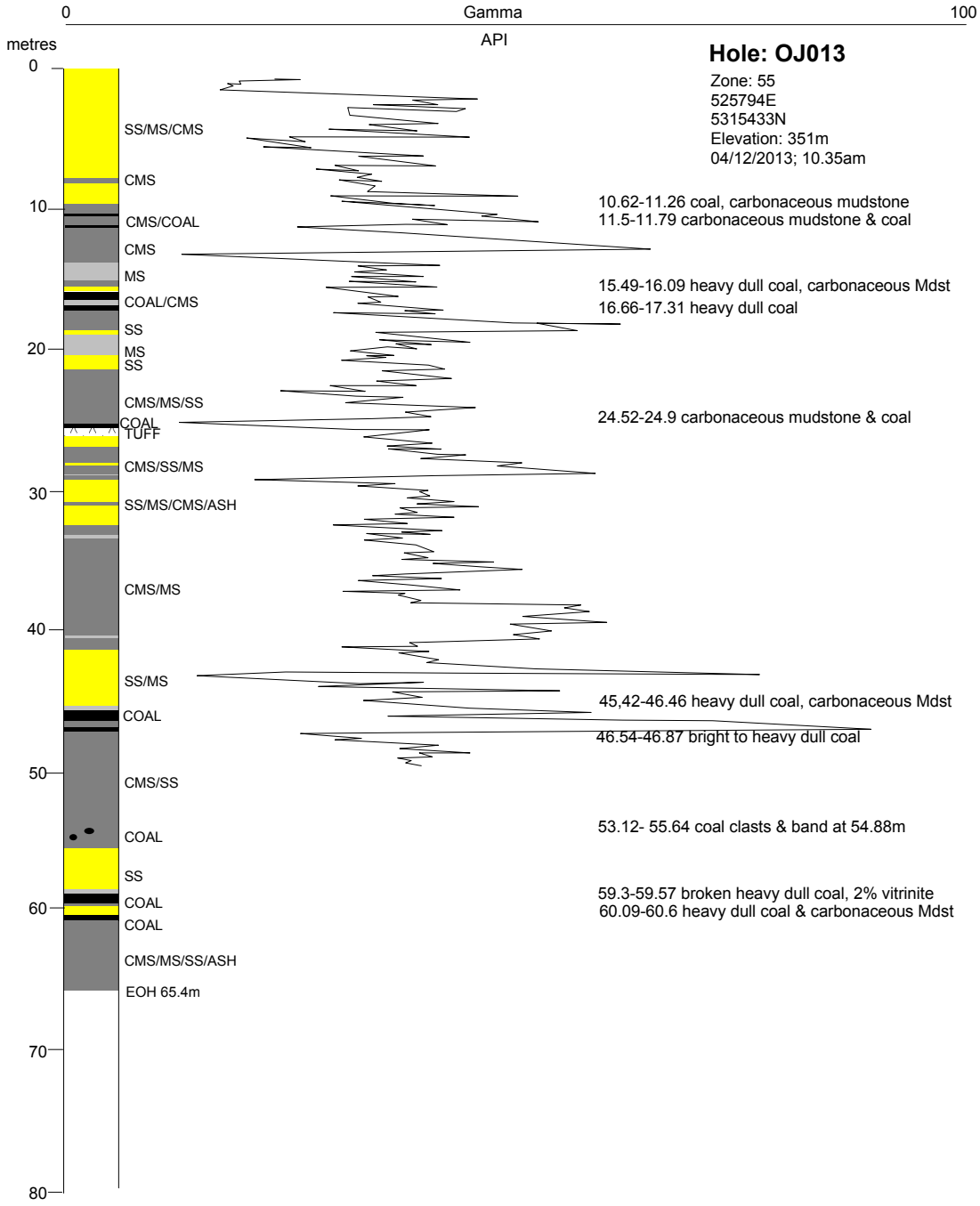


FIG. 21. LITHOLOGICAL & GAMMA RAY LOG OF OJ013

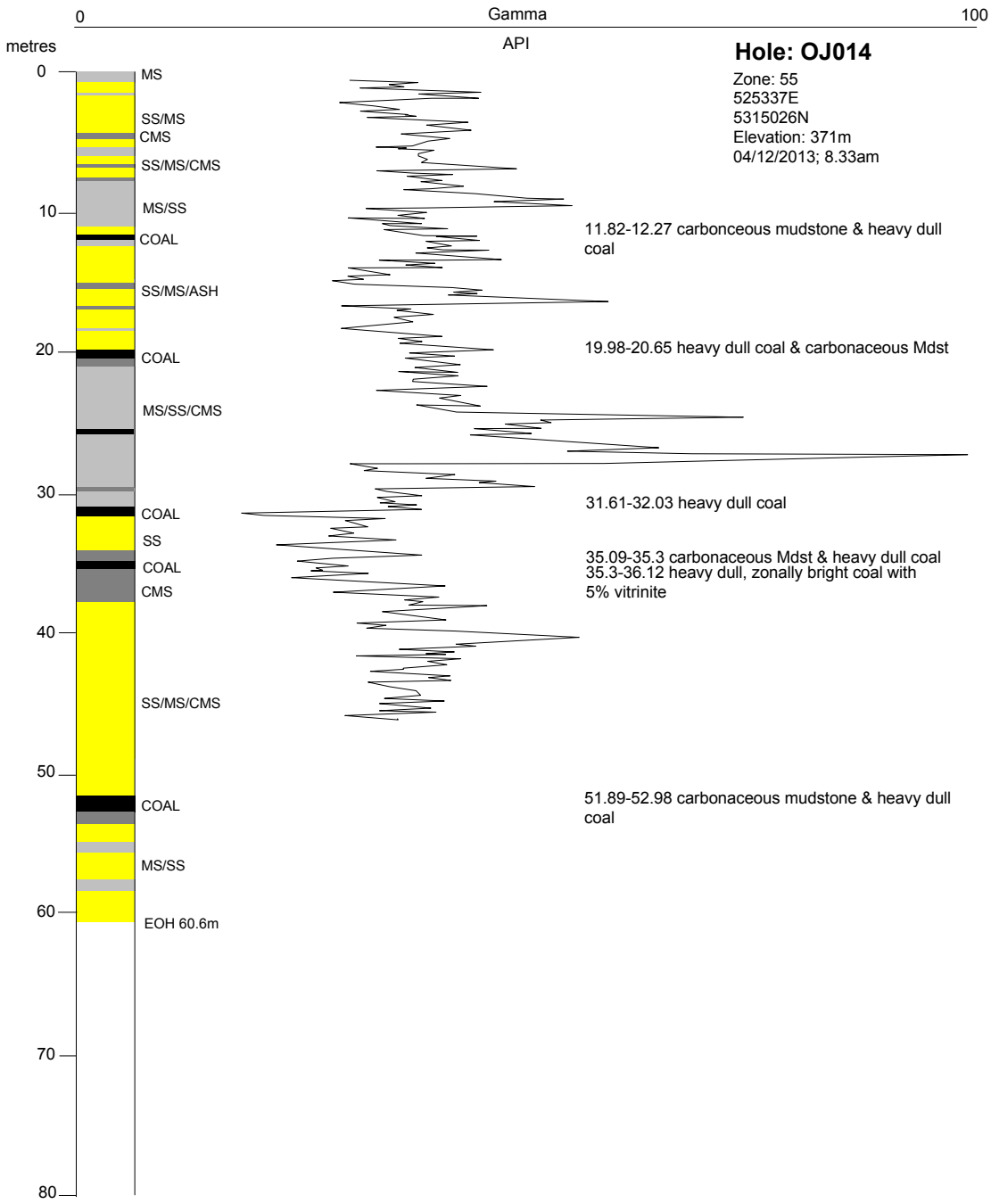


FIG. 22. LITHOLOGICAL & GAMMA RAY LOG OF OJ014

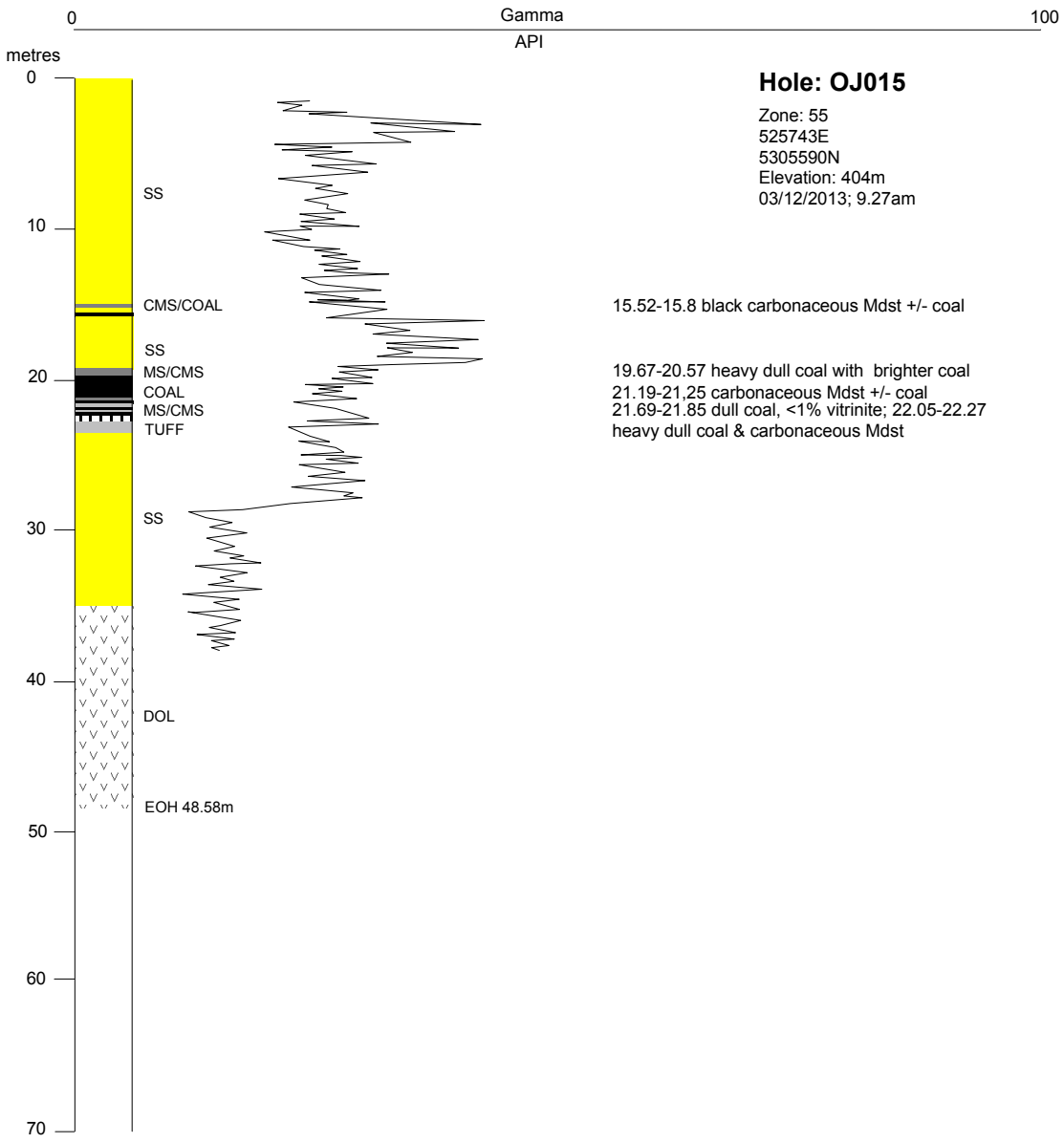


FIG. 23. LITHOLOGICAL & GAMMA RAY LOG OF OJ015

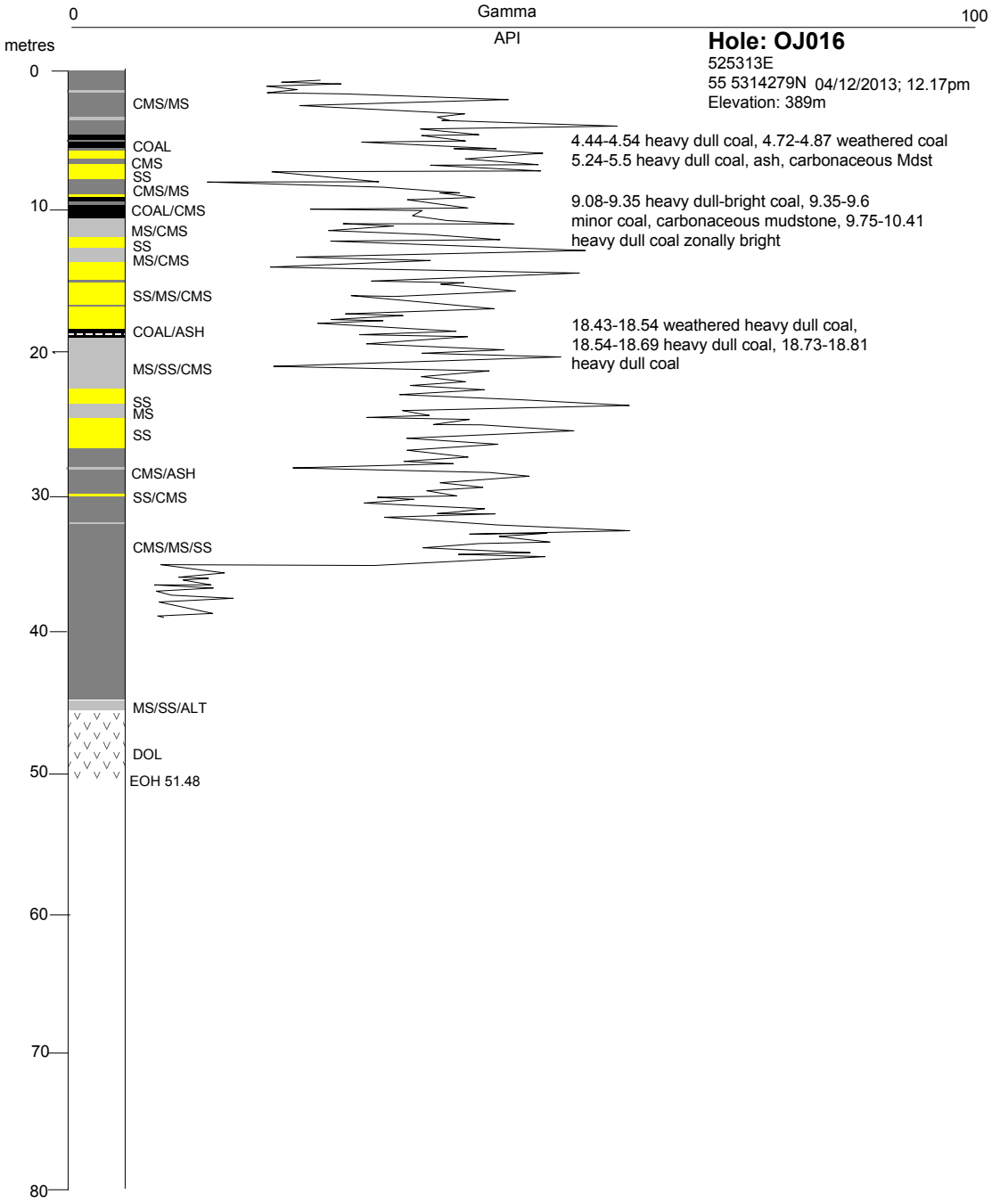


FIG. 24. LITHOLOGICAL & GAMMA RAY LOG OF OJ016

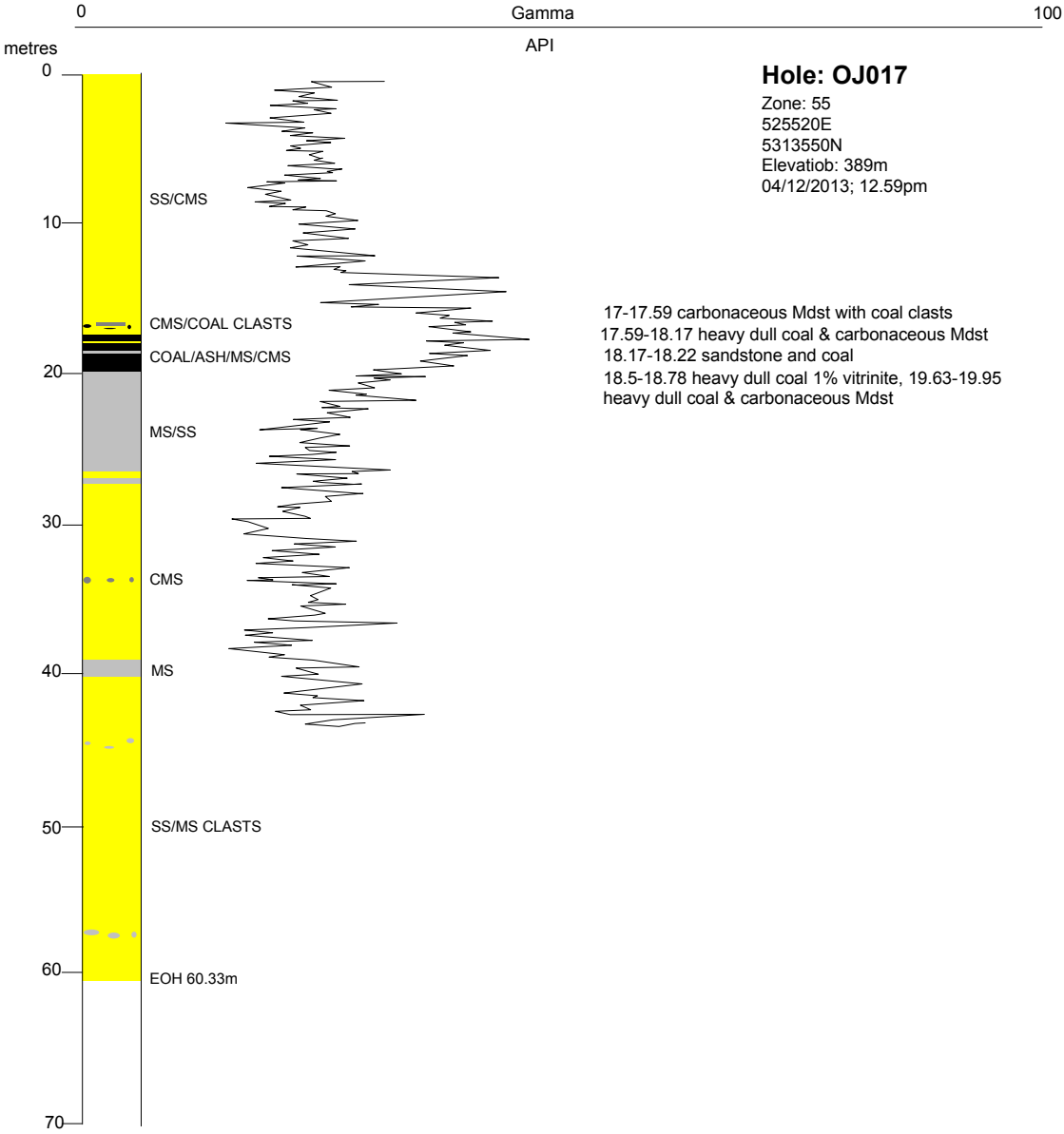


FIG. 25. LITHOLOGICAL & GAMMA RAY LOG OF OJ017

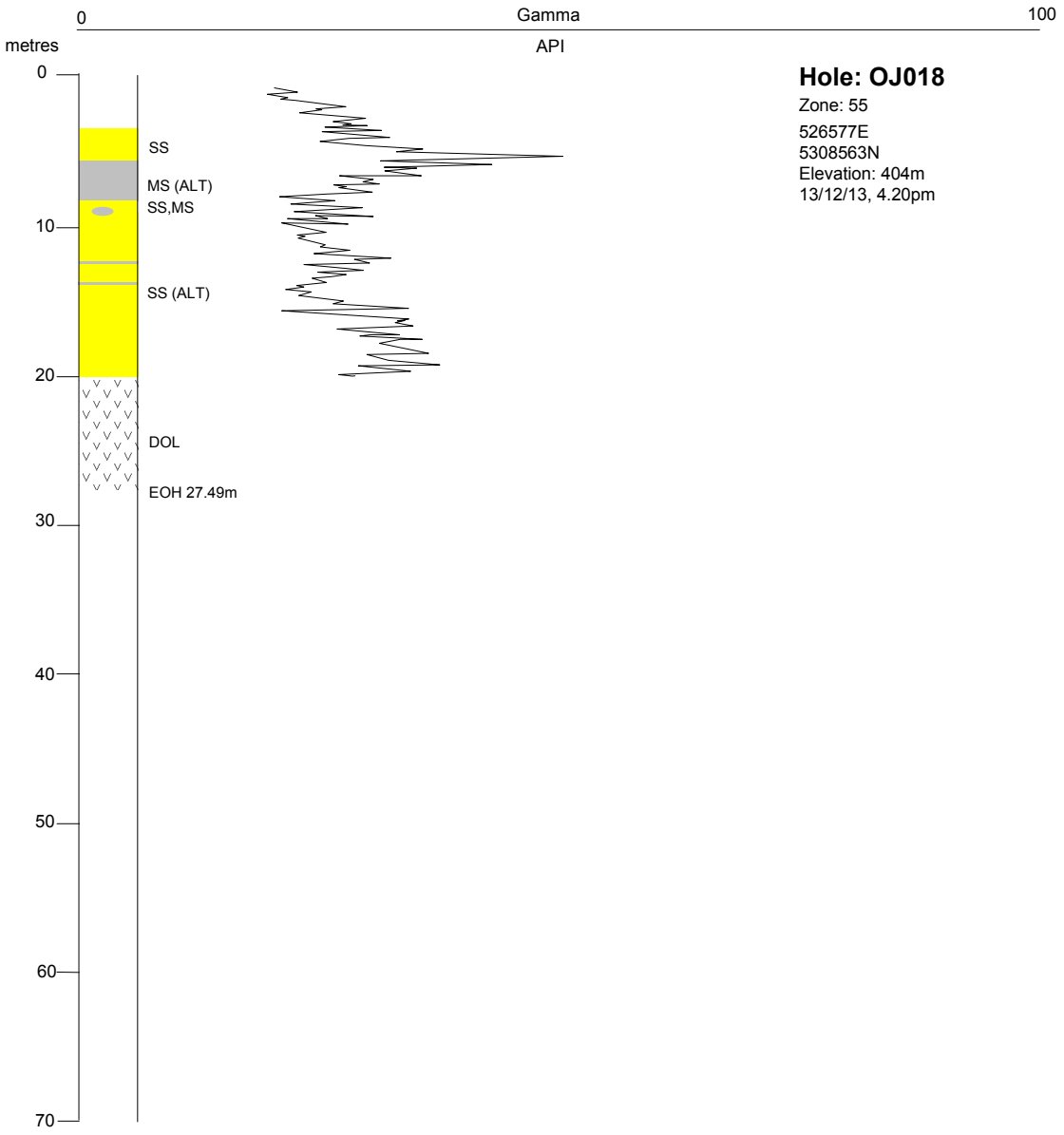


FIG. 26. LITHOLOGICAL & GAMMA RAY LOG OF OJ018

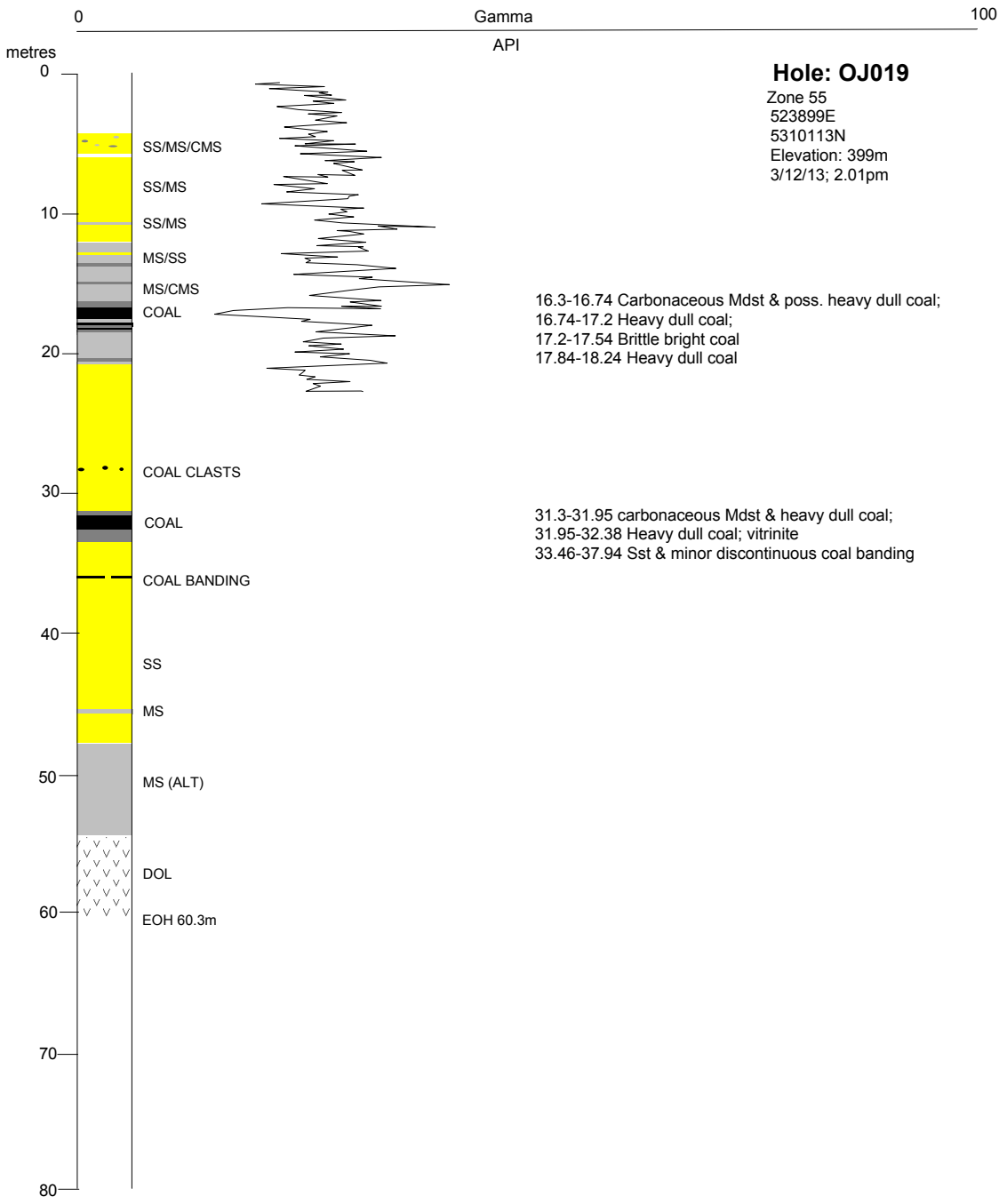


FIG. 27. LITHOLOGICAL & GAMMA RAY LOG OF OJ019

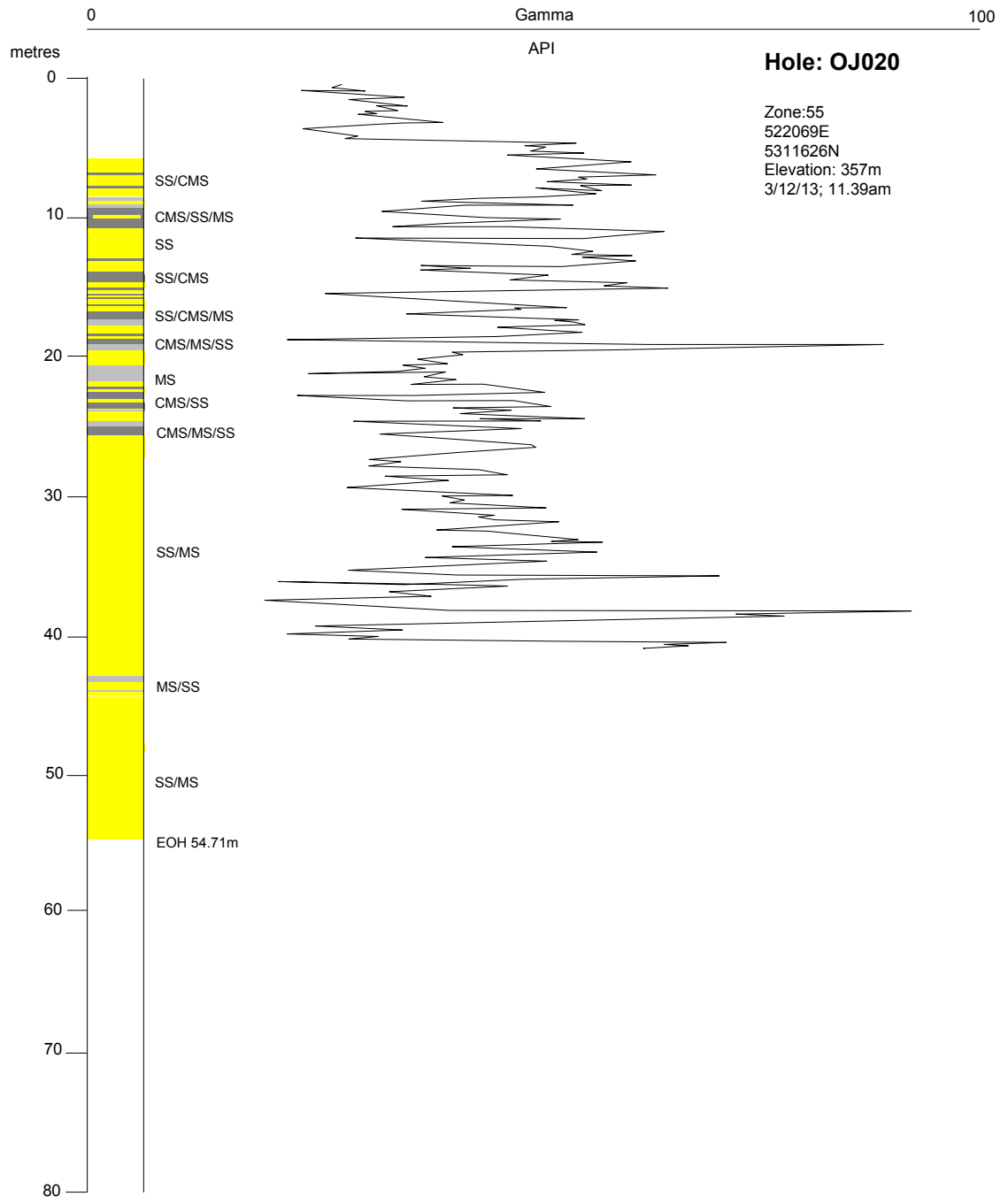


FIG. 28. LITHOLOGICAL & GAMMA RAY LOG OF OJ020

Hole: OJ021

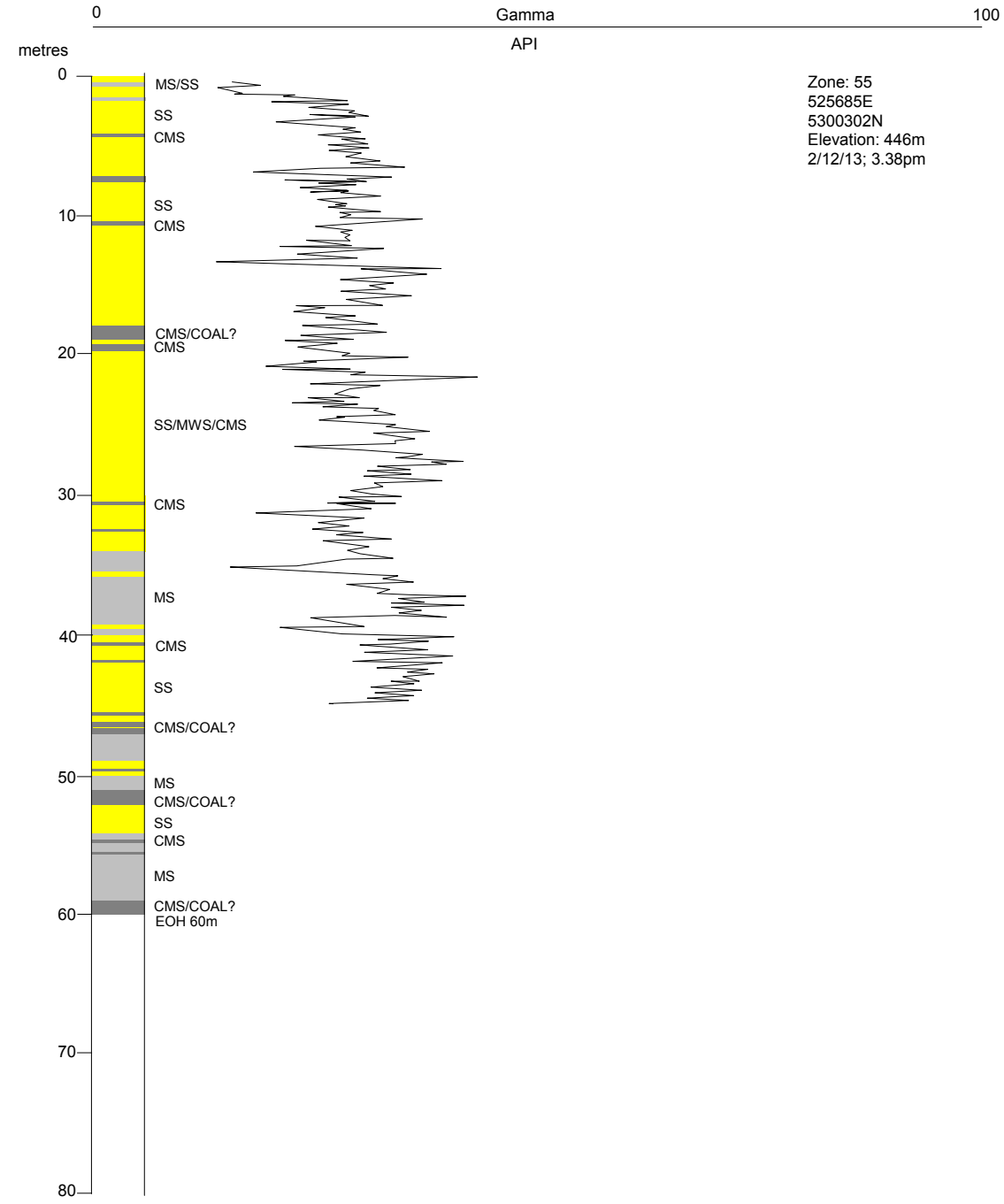


FIG. 29. LITHOLOGICAL & GAMMA RAY LOG OF OJ021

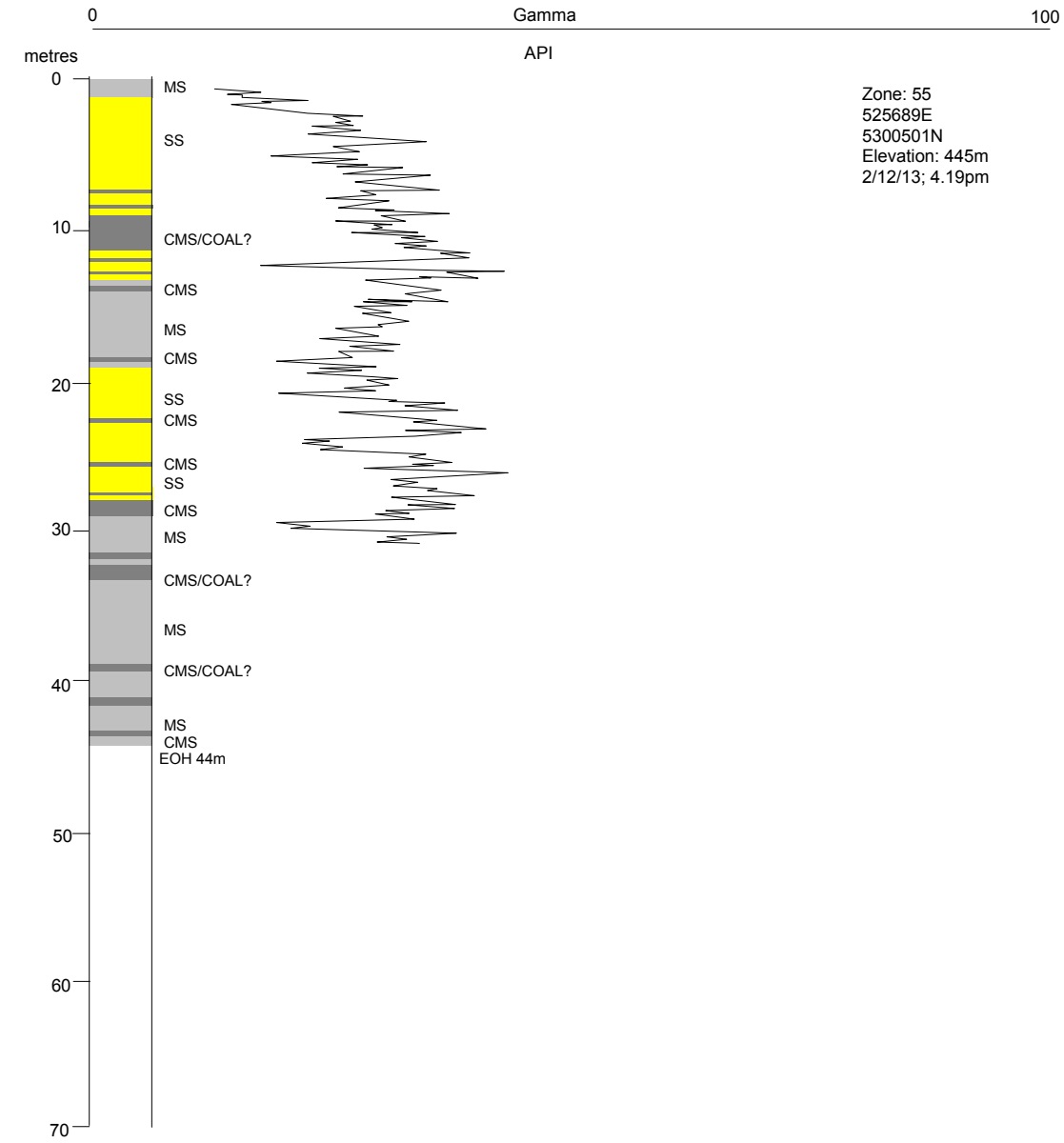


FIG. 30. LITHOLOGICAL & GAMMA RAY LOG OF OJ022

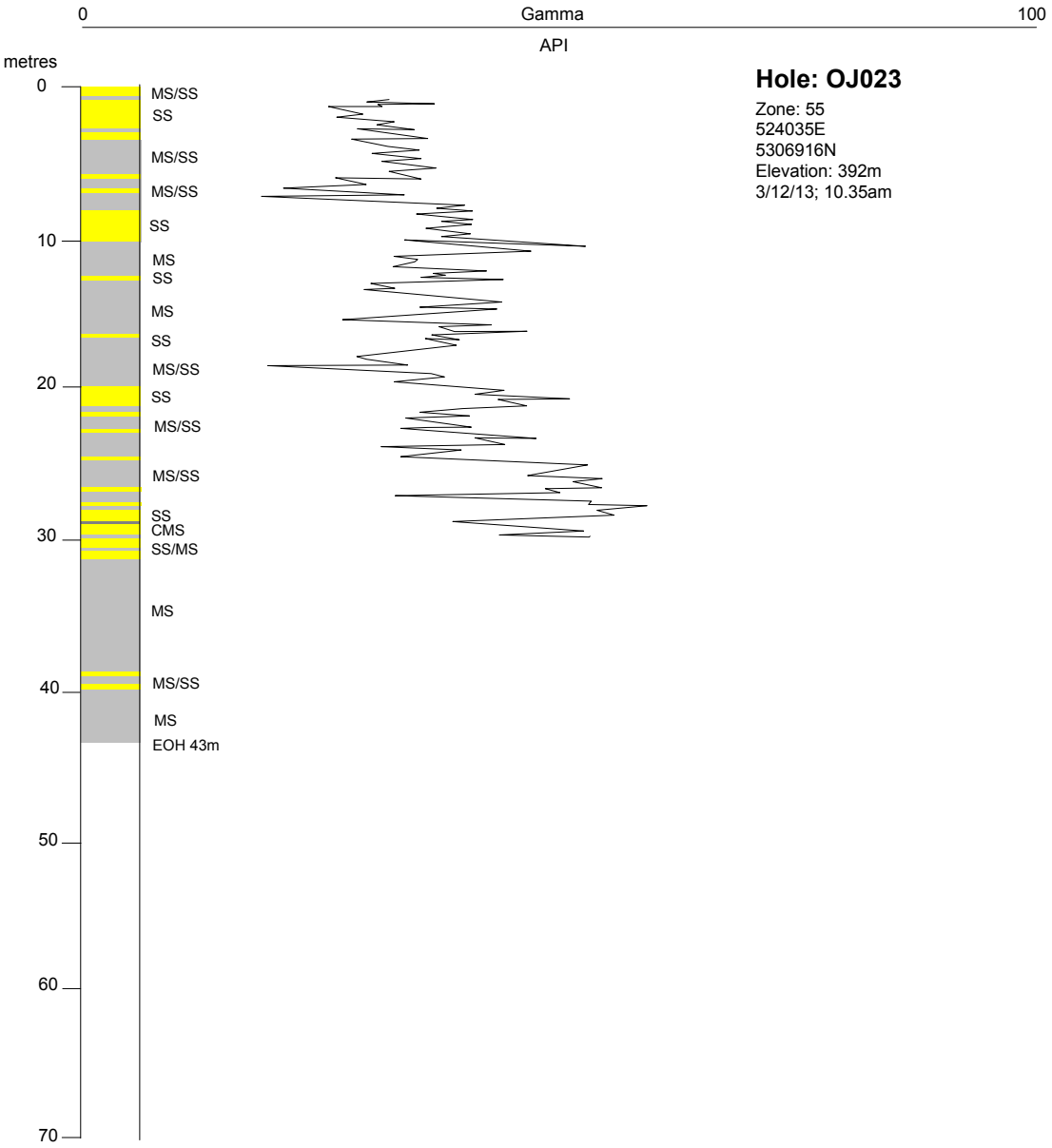


FIG. 31. LITHOLOGICAL & GAMMA RAY LOG OF OJ023

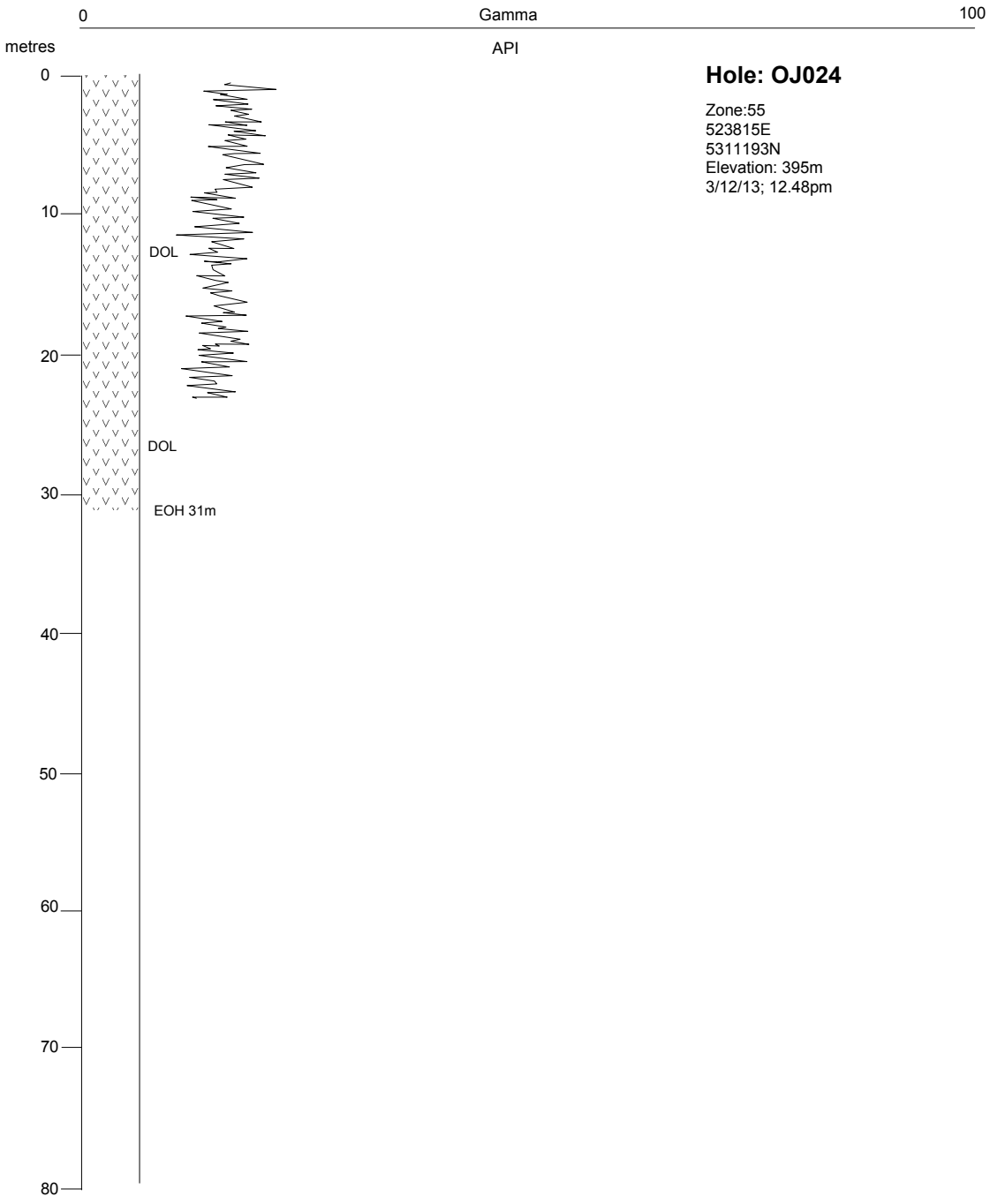


FIG. 32. LITHOLOGICAL & GAMMA RAY LOG OF OJ024

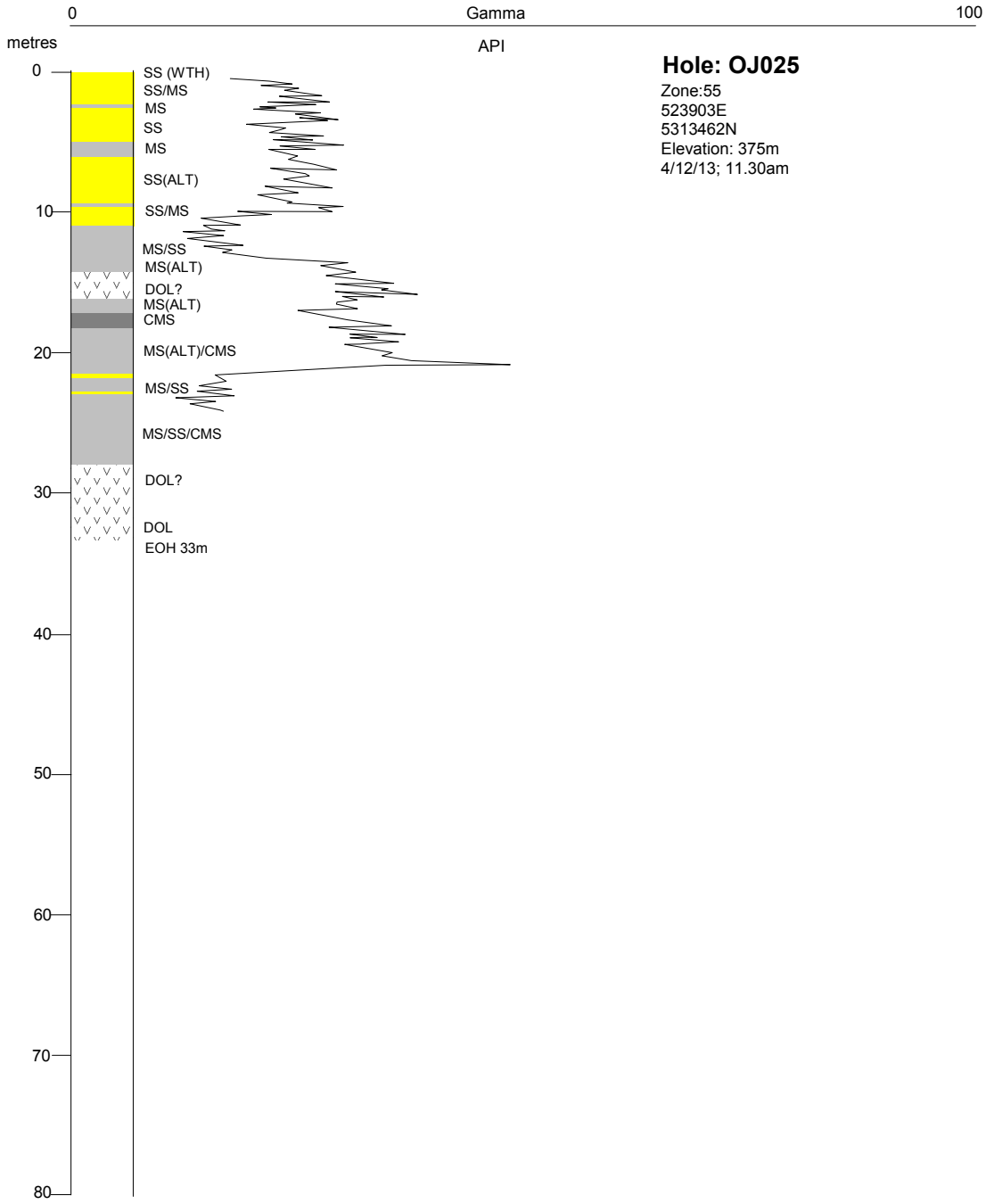


FIG. 33. LITHOLOGICAL & GAMMA RAY LOG OF OJ025

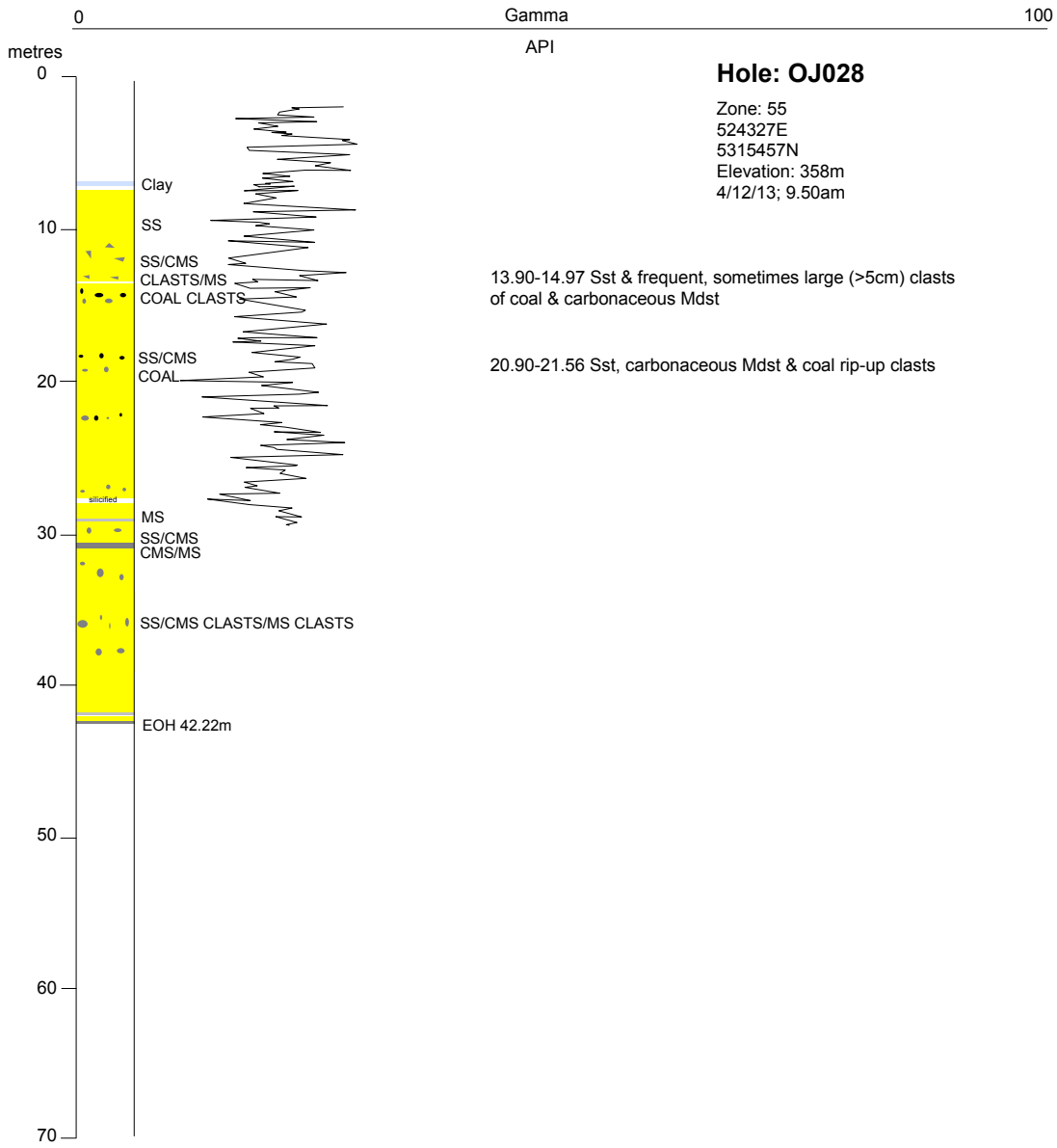
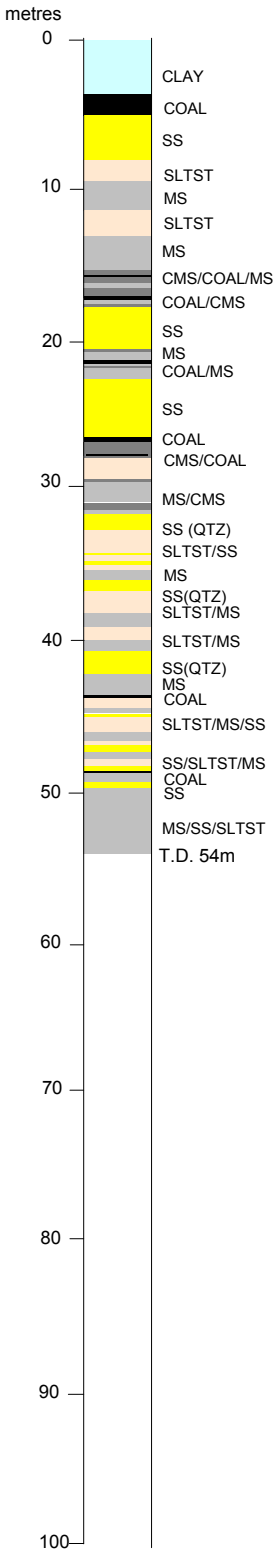


FIG. 34. LITHOLOGICAL & GAMMA RAY LOG OF OJ028

HOLE: JC-04

Zone: 55
525000E
5315000N
Elevation: 370m



3.5-5 coal oxidised & very soft

15.38-16.14 carbonaceous mudstone & heavy dull coal

17.17-17.38 coal, heavy dull

26.46-26.96 coal, heavy dull

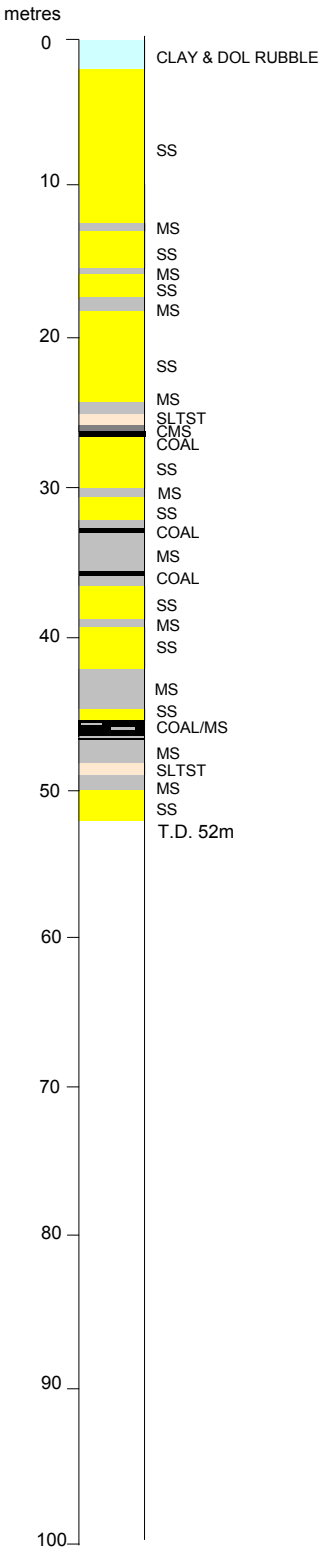
43.40-43.60 coal, heavy dull

48.56-48.72 coal

FIG. 35. LITHOLOGICAL LOG OF JC-04

HOLE: JC-06

Zone: 55
525900E
5307300N
Elevation: 410m



26.20-26.60 coal, heavy dull

32.50-32.90 coal, heavy dull

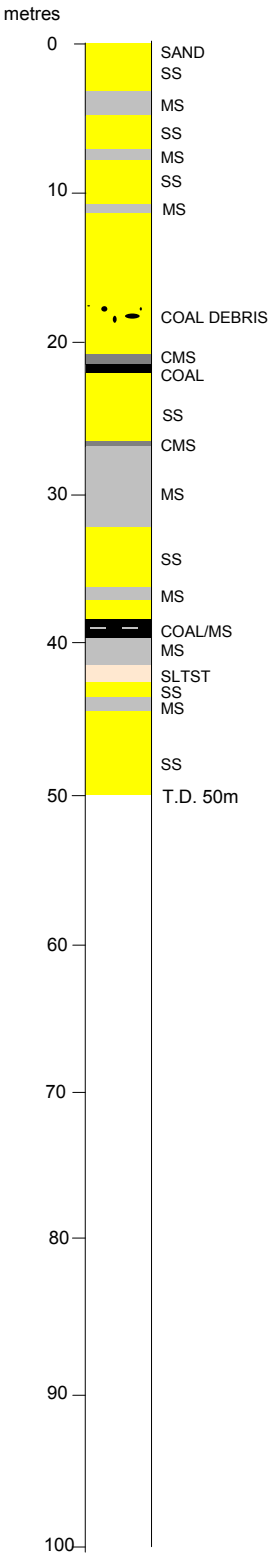
35.40-35.80 coal, heavy dull & carbonaceous mudstone

45.20-45.80, coal; 45.80-45.30 coal, heavy dull, mudstone bands; 46.41-46.52 coal

FIG. 36. LITHOLOGICAL LOG OF JC-06

HOLE: JC-07

Zone: 55
525500E
5308100N
Elevation: 395m



17.0-19.2 coal debris in sandstone

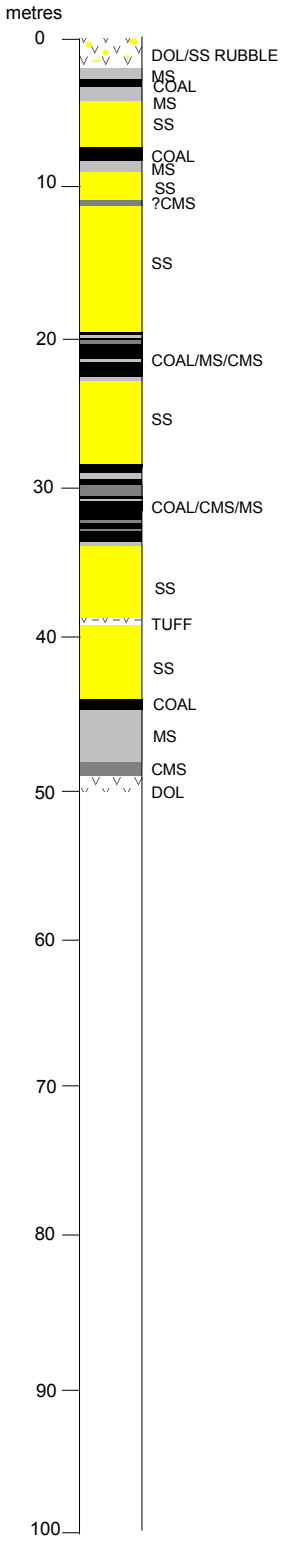
21.20-21.80 coal, heavy dull

38.45-38.73 ? coal, heavy dull; 38.73-39.77 coal & mudstone bands

FIG. 37. LITHOLOGICAL LOG OF JC-07

HOLE: JC-08

Zone: 55
524650E
5308450N
Elevation: 390m



2.8-3.1 coal

7.50-8.12 coal

19.75-20.46 coal; 20.45-20.74 coal, heavy dull;
20.74-21.62 coal; 21.62-22.24 coal, heavy dull;
with carbonaceous mudstone bands & mudstone bands

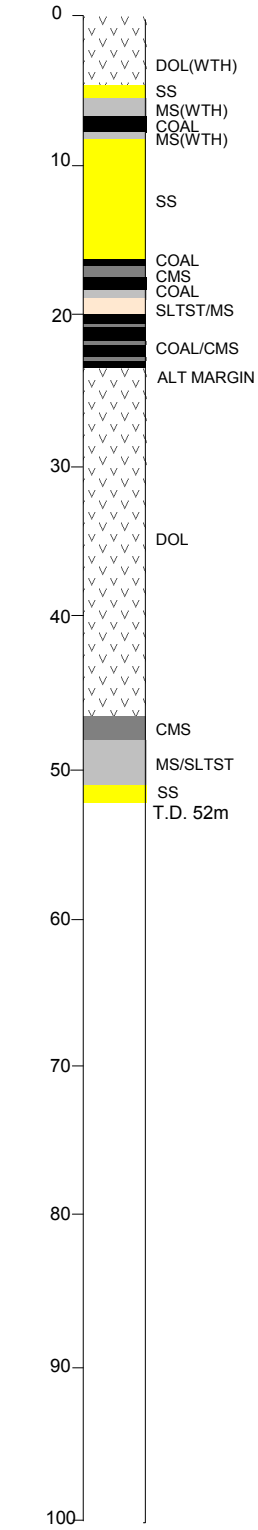
28.14-28.70 coal, some heavy dull; 28.70-29.08 coal.
heavy dull; 29.32-29.98 coal some heavy dull;
30.60-31.59 coal; 32.90-33.18 coal;
33.18-33.42 coal, heavy dull; with
carbonaceous mudstone & mudstone bands

43.80-44.40 coal, heavy dull

FIG. 38. LITHOLOGICAL LOG OF JC-08

HOLE: PT-04A

Zone: 55
525400E
5305400N
Elevation: 405m



6.8-7.8 coal

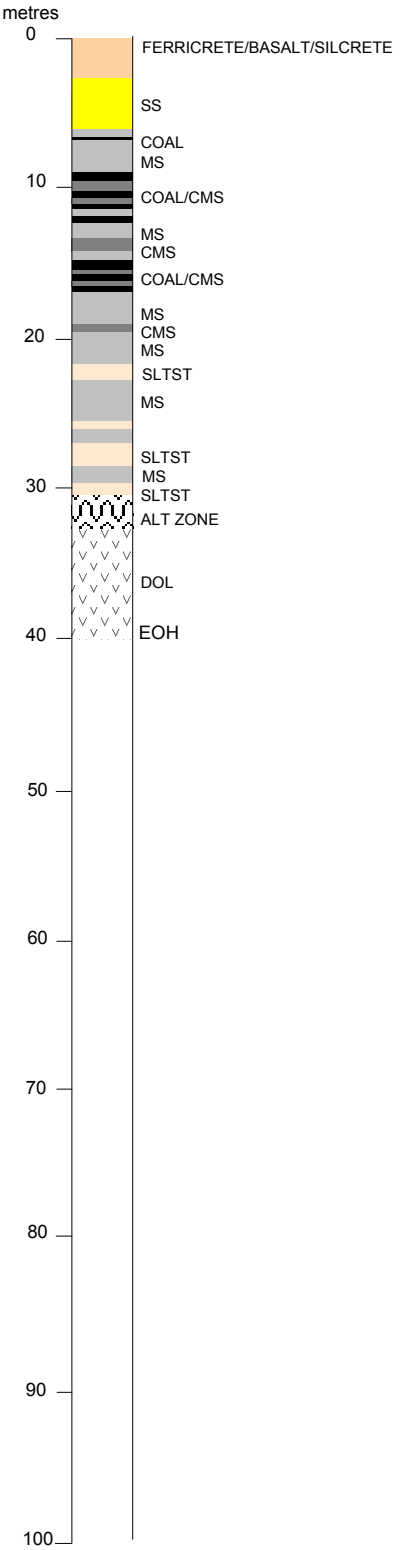
16.3-16.8 coal
17.6-18.4 coal

20.0-23.5 coal & carbonaceous mudstone, variably metamorphosed, strong water flow

FIG. 39. LITHOLOGICAL LOG OF PT-04A

HOLE: PT-05

Zone: 55
525600E
5301400N
Elevation: 432m



6.54-6.74 coal

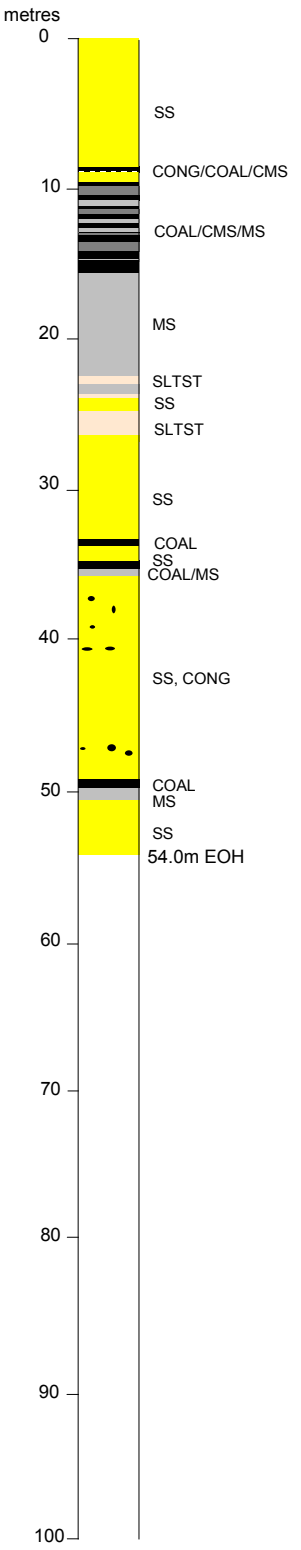
9.03-9.6 coal part heavy dull; 10.2-10.64 coal poss. part heavy dull
11.04-11.22 coal; 11.84-12.22 coal poss. part heavy dull

14.75-15.4 coal poss. part heavy dull;
15.7-15.32 coal poss. part heavy dull;
16.56-17.00 coal poss. part heavy dull

FIG. 40. LITHOLOGICAL LOG OF PT-05

HOLE: PT-06

Zone: 55
525750E
5299000N
Elevation: 448m



8.55-8.9 cong, coal/carbonaceous mudstone

9.58-9,73 coal, ?heavy dull; 10.21-10.78 coal;
11.14-11.29 coal, heavy dull;11.46-11.64 coal;
11.64-11.80 coal, heavy dull, carbonaceous mudstone;
11.80-11.90 coal; 12.04-12.18 coal;
12.18-12.34 coal. heavy dull; 12.34-12.48 coal;
12.60-12.74 coal, heavy dull; 12.92-13.40 coal;
14.0-14.4 coal; 14.6-15.5 coal

33.1-33.6 coal, heavy dull

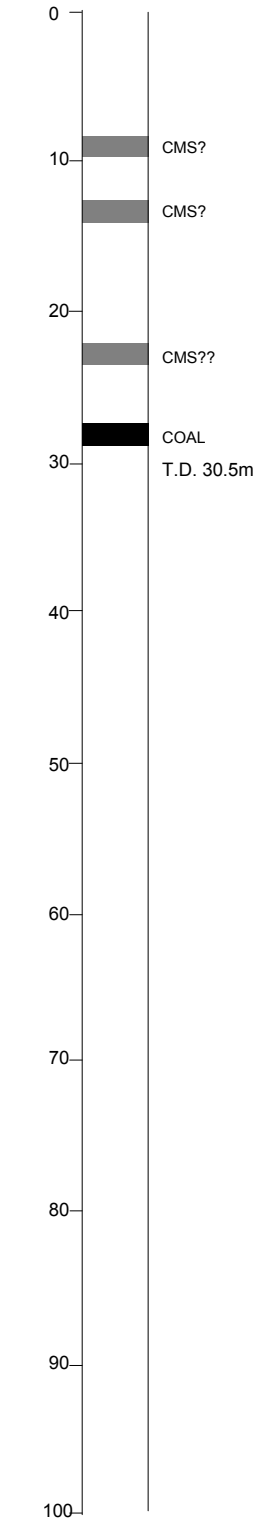
34.8-35.2 coal, heavy dull

49.2-49.8 coal, heavy dull & carbonaceous mudstone

FIG. 41. LITHOLOGICAL LOG OF PT-06

WATER BORE: 4096

Zone: 55
524814E
5306183N



27.5-29.0 coal

FIG. 42. LITHOLOGICAL LOG OF WATERBORE 4096

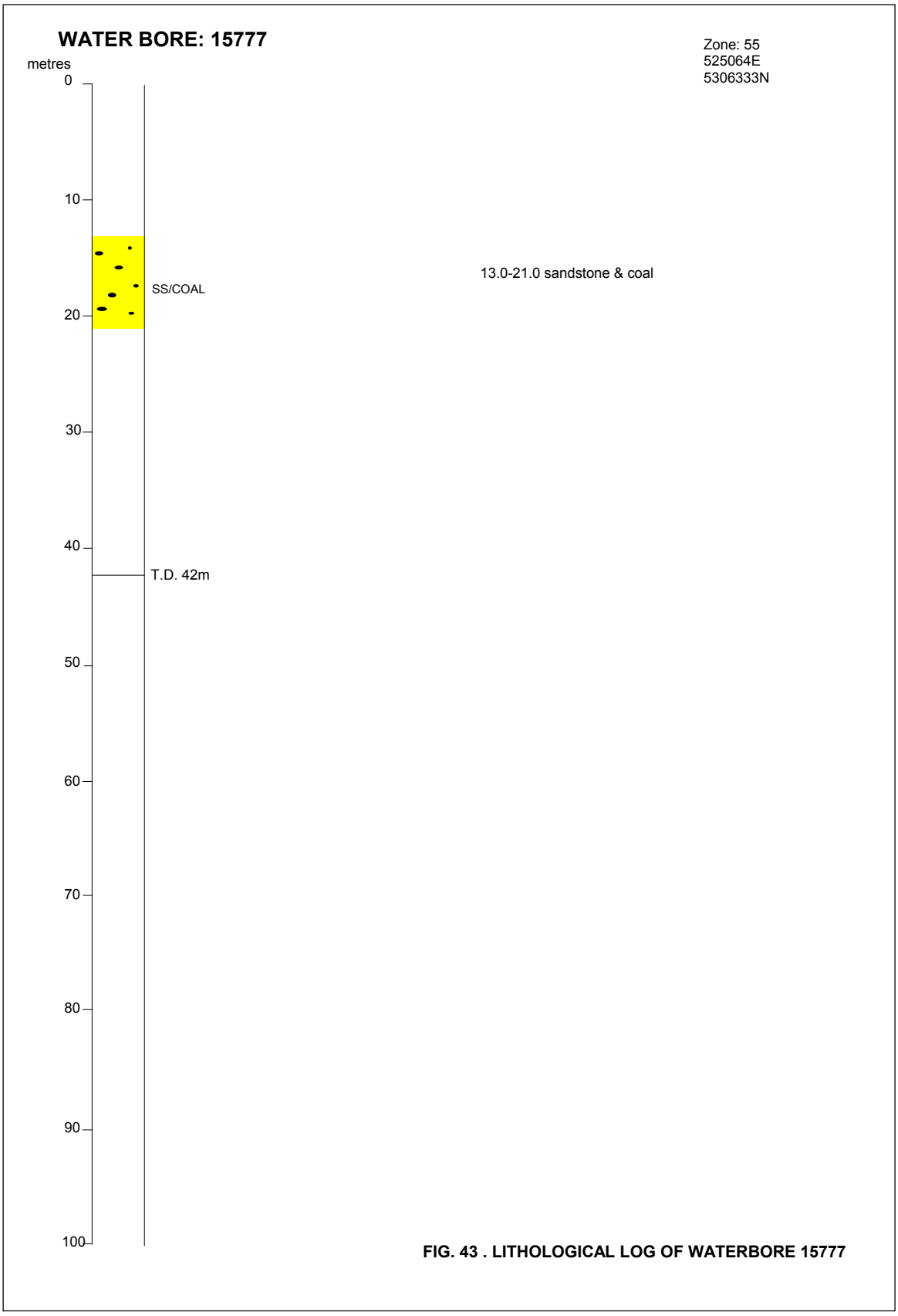
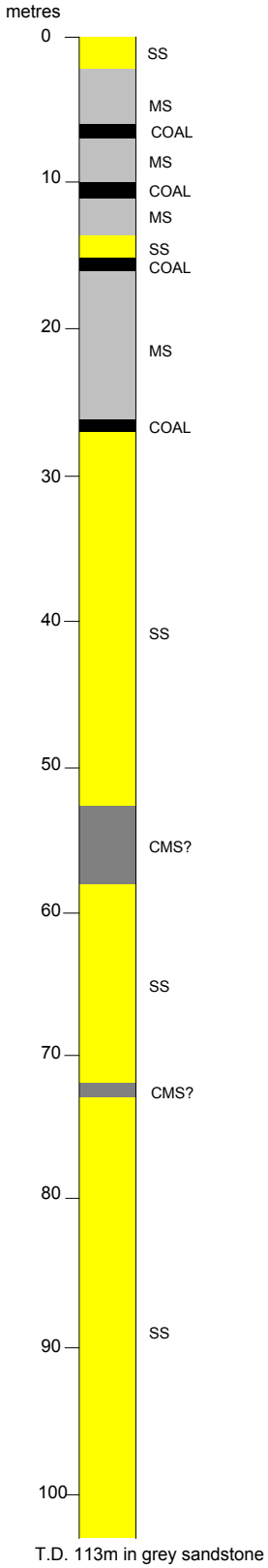


FIG. 43 . LITHOLOGICAL LOG OF WATERBORE 15777

WATER BORE: 15781

Zone: 55
524914E
5316083N



6-7 coal

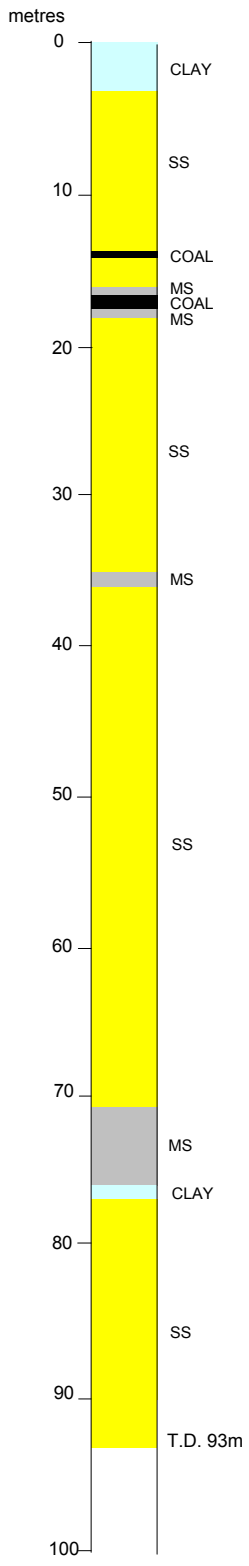
10-11 coal

15-16 coal

26-27 coal

FIG. 44. LITHOLOGICAL LOG OF WATERBORE 15781

WATER BORE: 15782



Zone: 55
525814E
5312983N

13.5-14 coal

16.5-17.5 coal

FIG.45. LITHOLOGICAL LOG OF WATERBORE 15782