

15 February 2021

Ref: C-CPLRC-100047221

Ruth Brown
Principal Environmental Officer
Energy, Extractive and South West Compliance
Environmental Services & Regulation
Department of Environment and Science

Via Email: Ruth.Brown@des.qld.gov.au

Re: C-CPLRC-100047221 Rehabilitation of Plainview 003 well

Dear Ms Brown,

Thank you for your email of 21 January 2021 regarding a community report of alleged non-compliance with the rehabilitation conditions of a Conduct and Compensation Agreement (CCA) linked to land previously described as Lot 36 DY361, but now known as Lot 2 SP231642.

The complicating factors with this matter include:

1. the 'compensation agreement' is no longer in effect and Arrow does not have a CCA with the current landholder to allow Arrow Energy the right to access the property;
2. the well in question (Plainview 3) is no longer within the area of Authority to Prospect (ATP) 683;
3. the well falls in the area of Petroleum Lease (PL) 238, but it is not an asset associated with that Petroleum Lease. The well was plugged and abandoned (P&A) in May 2009. PL238 was granted in October 2009.

Arrow Energy is committed to working with 78B(2) the Department of Environment and Science (DES) and the Department of Resources (noting that the Department of Resources is responsible for administering CCAs under the *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld) (MERC Act) to ensure that Arrow rehabilitates land no longer in use in accordance with best industry standards. To date, our efforts to gain access to the land to carry out further rehabilitation have been met with resistance.

78B(2) and Arrow would both greatly benefit from the Department's stewardship of this matter towards resolution.

History of Plainview 3 and engagement with 78B(2)

Plainview 3 is a core hole, drilled in April 2008 and P&A in May 2009. The well was rehabilitated in accordance with the environmental authority that was in place at the time as well as the compensation agreement in place with the former landholder. (Note: a core hole is drilled to collect and analyse the collected core to determine the lithology and is not a producing well).

After P&A and rehabilitation was completed, it has come to Arrow's attention that some localised subsidence has occurred. It is not uncommon for very localised soil erosion and minor subsidence to occur at the site of former drill pits, particularly if the operator has not had the opportunity to

revegetate the area. Where this occurs, the area is usually remediated by further backfilling and levelling.

Since the issue was first raised with us in 2011, Arrow has been willing to rectify the subsidence and remove any remaining gravel, and we remain committed to doing so. However, in order for Arrow to enter upon 78B(2) land to conduct further rehabilitation, Arrow requires a new CCA with Mr 78B(2) to access his land.

Unfortunately, Arrow has not been able to secure the right to enter 78B(2) land in order to carry out further rehabilitation, despite communications with 78B(2) spanning over 10 years.

We welcome any assistance that DES and the Department of Resources can provide to assist with securing access rights to allow Arrow to remediate the land.

Response to DES request for information

In order to address the specific issues raised by 78B(2) representative, please find below Arrow's response:

Representative assertions	Arrow Response
<i>Subsidence has occurred in the DA (disturbed area). No effort has been made to rectify this subsidence</i>	<p>There is some minor localised subsidence that has occurred following rehabilitation of the site. Arrow has acknowledged this subsidence and has offered on numerous occasions to rectify. Arrow categorically disputes that “no effort has been made to rectify the subsidence”. Arrow has been seeking consent to access the land to carry out further remediation since at least December 2011. Details can be provided on request.</p> <p>More recently in April 2020, Arrow prepared, and provided 78B(2) and his representative a copy of, a remediation program.</p> <p>However, until 78B(2) grants Arrow right of access on reasonable terms, Arrow does not have any legal right to enter 78B(2) land to carry out any remediation.</p>
<i>There is remaining gravel on the DA left behind after completion of activities. No effort has been made to remove the gravel, and restore the land to its former condition. The gravel continues to interfere with our client's ability to successfully farm the land causing loss. Additionally 78B(2) states that the gravel has and may cause damage to their equipment in future if it is not removed.</i>	<p>There is a small amount of gravel located on an established access track that Arrow has acknowledged (noting that the previous landholder with whom we had a CCA, likely requested this gravel remain – see below) and offered on numerous occasions to remove. We confirm that the remaining gravel will be removed if and when Arrow is able to secure access to the land.</p>
<i>Clause 3(d) of the CCA obliges Arrow remove all rubbish, waste or construction debris created by the activities.</i>	<p>See the above response on gravel.</p>

The activities undertaken whilst drilling may have caused the contamination of soils in the DA which reduces our client's ability to farm the land. Despite 78B(2) best endeavours, the DA is unviable cropping land. 78B(2) advises that an agronomist confirmed the area as a potential site of disposal from the drill site. This area requires testing and potentially rectification by Arrow.

Arrow has offered to assess and rectify the disturbed area, however Arrow has been denied access to undertake these activities on numerous occasions. 78B(2) as frustrated the process by disputing the manner in which Arrow assesses disturbed areas and seeks detailed information that does not serve to progress the matter towards resolution (for example, requiring Arrow to submit detailed information regarding the qualifications of persons carrying out the assessment and at least two referees). Arrow is willing to consult with 78B(2) regarding the rehabilitation program, however remediation will be undertaken in accordance with the relevant legislative requirements and not as directed by 78B(2).

Arrow has offered to provide validation testing and reporting to 'prove' that the land is suitable for use following any rectification works that may be required to be undertaken. Arrow will provide the results of any validation testing to DES following rehabilitation.

In order to assist DES with its investigation, please find below the details of activities undertaken by Arrow that have occurred within the area of interest:

Requested Details	Arrow Response
<i>Photos and report of site visit conducted by Arrow on 2 March 2020.</i>	See Appendix A
<i>Remediation plan provided by Arrow to landholder on 30 April 2020.</i>	See Appendix B
<i>Copy of, or minutes/report from video meeting held on 25 June 2020 between Arrow and landholder and his representatives, at which issues with the remediation plan and suggested ways forward were discussed.</i>	<p>Arrow did not take formal minutes of the meeting that occurred on 25 June 2020. The key issues from that meeting were soil testing, the quantum of compensation being claimed by 78B(2) in excess of \$200,000) and the question of whether Arrow will pay 78B(2) to carry out the remediation works himself.</p> <p>Arrow reiterated that it was keen to access the land to undertake further rehabilitation. The requirement for a new Conduct and Compensation Agreement was discussed. 78B(2) representative has suggested that his access requirements alone would be difficult for Arrow to agree to.</p> <p>No communication of any consequence has been entered into since that meeting.</p>

<p><i>Details of the location and configuration of the Plainview 003 well site, in particular details of the location (e.g. a map and/or coordinates) and extent of the well head, drilling mud sump, flare pit and any other infrastructure and activities associated with this well.</i></p>	<p>See Appendix C – Well Completion Report and Well Abandonment Report.</p> <p>Arrow does not have any additional records or specific information at hand.</p>
<p><i>Provide details of how compliance with the conditions of the CCA has been achieved.</i></p>	<p>Conduct and Compensation Agreements ordinarily fall within the responsibility of the Department administering the <i>Mineral and Energy Resources (Common Provisions) Act 2014</i>, being the Department of Resources. However, Arrow is happy to provide this information if it will assist in progressing this matter to resolution.</p> <p>The agreement referred to is a 'Compensation Agreement' with the previous owner of 78B(2) land. This 'Compensation Agreement' was agreed with the landholder before the land access framework was reformed to introduce the concept of a CCA and conduct conditions. These early Compensation Agreements were short agreements which generally did not address in detail issues relating to rehabilitation.</p> <p>To the extent that the Compensation Agreement contemplated rehabilitation, the terms of the agreement required: <i>Rehabilitation of land affected by the Activities, in accordance with the Act and any environmental requirements</i>. There was also an obligation to remove <i>rubbish, waste or construction debris</i>.</p> <p>To the best of our knowledge the well was rehabilitated in accordance with Arrow's statutory obligations. A Well Completion Report and Well Abandonment Report were provided to the department responsible for administering permits around February 2012 (see Appendix C).</p> <p>In relation to the remaining gravel, there is some recollection that the landholder requested the gravel remain in situ for personal use. It is not unusual for this request to be made. Unfortunately, Arrow does not have any records to confirm this. 78B(2) acquired the property after the well had been abandoned. The existence of gravel on the property would have been evident at the time of purchase.</p>
<p><i>Provide details of how compliance with Schedule F – Land conditions of EA 150 254 (copy attached) particularly conditions (F1) and (F5) have been achieved.</i></p>	<p>(F1) as evidenced by the disturbance footprint, a minimal disturbance pad was installed; as evidenced from the rehabilitation, topsoil was stockpiled and used for rehabilitation.</p>

	<p>(F5)</p> <p>(a) there was no contaminated land that we are aware of that required remediation</p> <p>(b) all significantly disturbed land was reshaped to a stable landform similar to that of surrounding undisturbed areas. Some minor localised subsidence has occurred at a later date and Arrow has offered to rectify.</p> <p>(c) all significantly disturbed land was reinstated to the pre-disturbed land suitability class. Some minor localised subsidence has occurred at a later date and Arrow has offered to rectify.</p> <p>(d) Drainage lines were established, top soils re-instated, and the site left to be re-vegetated by the landholder. There is some recollection that the landholder requested this, but Arrow does not have any records to confirm this position.</p> <p>(e) The land was left maintenance free</p> <p>(f) N/A</p> <p>(g) N/A</p>
<p><i>Provide details of how compliance with relevant legislation (Environmental Protection Act 1994, Petroleum and Gas (Production and Safety) Act 2004 and subordinate legislation (Petroleum and Gas (Production and Safety) Regulation 2004) current as of May 2008, has been achieved regarding the decommissioning and rehabilitation of this well.</i></p>	<p>The vast majority of Arrow's environmental obligations from the EP Act are covered by the specific requirements of the Environmental Authority. Arrow has complied to the best of its knowledge with all of the requirements of the Environmental Authority in place at the time of well installation, plug and abandonment and rehabilitation.</p> <p>Despite having P&A and rehabilitated the area in accordance with the EA, Arrow acknowledges that some localised subsidence has occurred that is likely linked to Arrow's activities. Arrow would like the opportunity to remediate the land as soon as possible. We do however need a right of access in order to do so.</p>

We trust that the information provided above shows that Arrow has been offering to address the landholder's concerns for many years and that access to undertake these works has been repeatedly denied.

We acknowledge that there is some minor subsidence at the site that occurred following rehabilitation of the site. We also acknowledge that there is a small amount of gravel remaining on the site. We wish to remediate these areas as soon as possible and provide 78B(2) with a validation report showing that the site is suitable for use. Arrow is happy to provide DES with that validation report once completed.

Any assistance that DES can provide in helping Arrow to gain access to the site in order to complete the additional rehabilitation works that we have proposed would be of great assistance.

Thank you for your time. Should you have any queries or wish to discuss further, please contact me on [sch4p4(6) Perso] or [sch4p4(6) Pe]@arrowenergy.com.au

Yours sincerely,

[sch4p4(6) Personal informati]

[78B(2)]

Environment Manager

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Appendix A – Photos and report of site visit

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78B(2) Site Inspection

Arrow Representatives:

78B(2)

Landholder representatives:

78B(2)

78B(2) (Molliwell) acting as Landholder Representative

The site meeting started at the entrance to the property at 221 Percy Jurgs Rd, Cecil Plains at approximately 12:55pm on 2/03/2020. The Entry Notice was signed by the Landholders' authorised representative, 78B(2). A copy of the Washdown certificate for the Arrow vehicle was supplied to 78B(2) as evidence of a clean vehicle.

Arrow was instructed to follow 78B(2) (landholders father) vehicle in one Arrow vehicle to the 'areas of landholder concern' via the western and southern boundaries. It was noted that there were patches of nutgrass, FTR grass, windmill grass and button grass along the route.

The 78B(2) pointed out three distinct locations of imported gravel that the landholder would like removed. An area of subsidence approx. 10 x15m in size was identified and inspected.

There was also an area of land that the landholder suspected as being contaminated due to the assertion that when seedlings emerge that they twist up and have no vigour. This site is approx. 250m from the former well pad and 100m from the access track. This area was viewed and it was understood that the landholder had testing undertaken by an agronomist on the soil in this area. Arrow requested a copy of any testing that had been done.

Arrow's construction representative suggested that the rectification of subsidence and the removal of the gravelled areas was a straight forward operation, taking a short time to complete.

78B(2) gave to 78B(2) a list of questions related to the P&A and rehabilitation of Plainview 3 well site and the gravelled areas. There was also an invoice provided entitled "Arrow Energy #2 Time and expenses associated with PV-003". 78B(2) requested Arrow email the following day a copy of the minutes of the site visit and photographs.

Arrow representatives took a number of photos which have been agreed to be provided back to the Landholder via 78B(2)













**Appendix B – Remediation Program provided by Arrow to
landholder**

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78B(2)

- Remediation Program

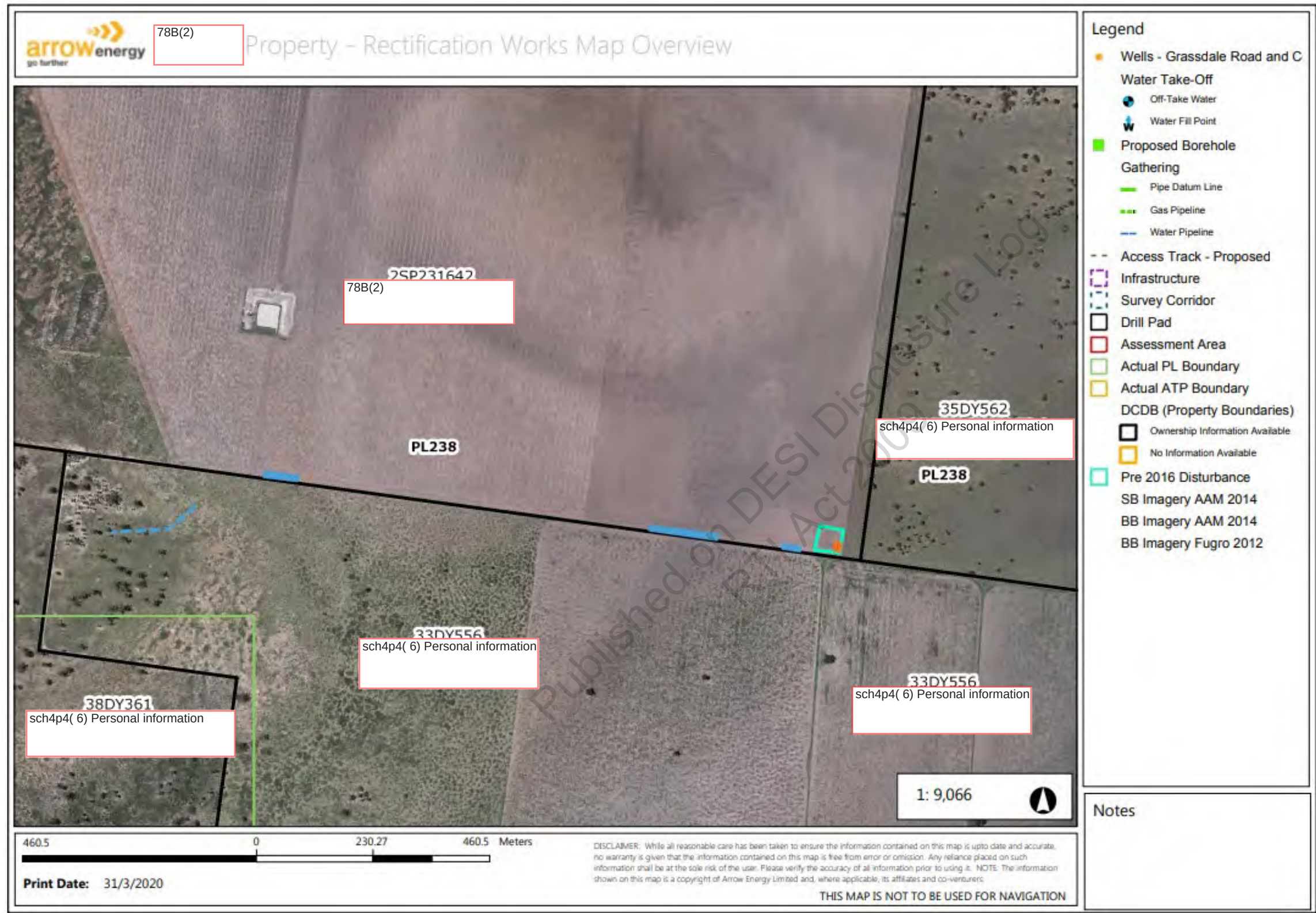
The timeframes indicated below are a best estimate and are dependent upon when the Agreement is executed by the parties, any additional requirements the Landholder has in accordance with the terms of the Agreement and weather.

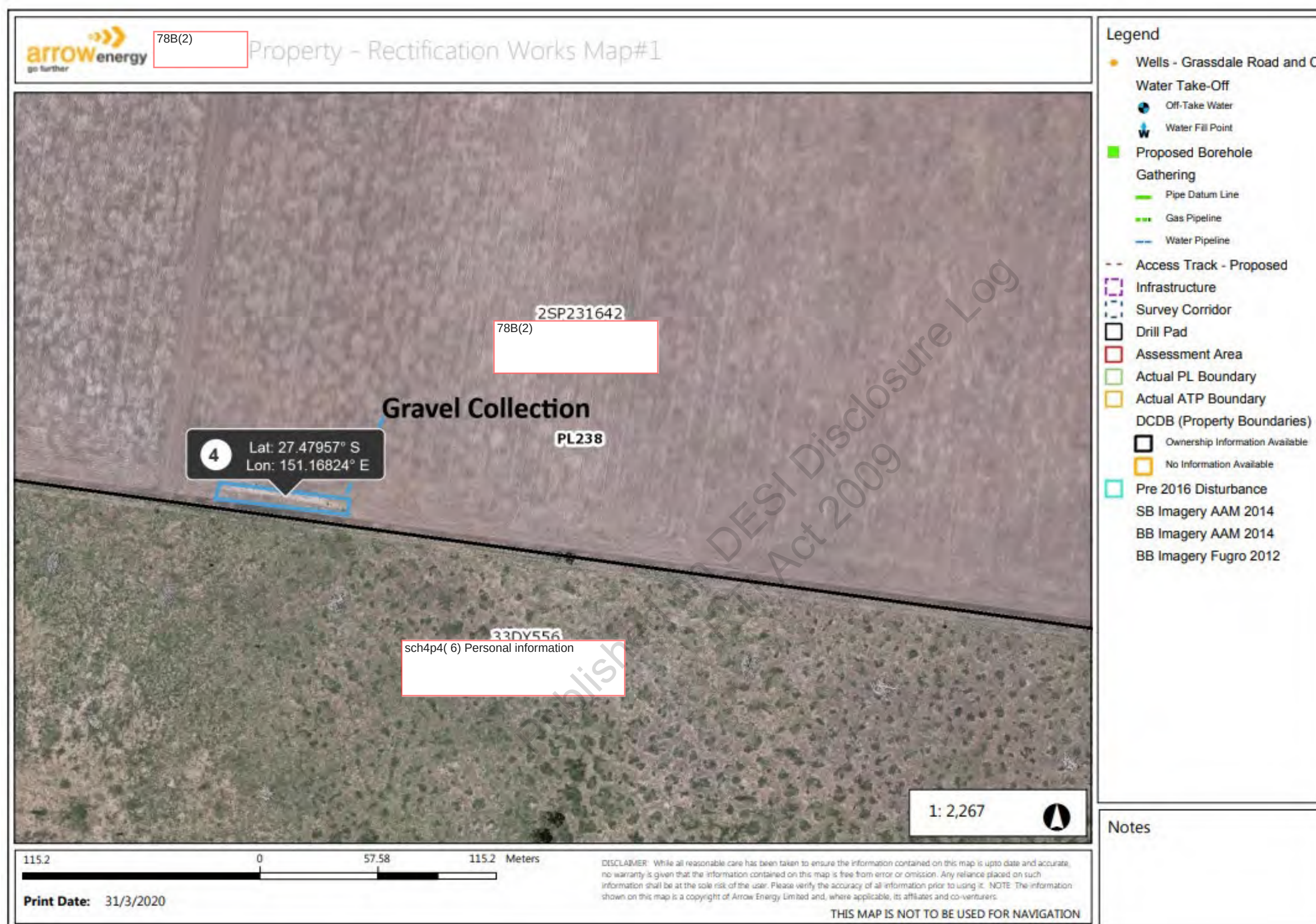
	Activity	Equipment Required	Manning	When	Where	Assumptions/Conditions
	Rectification Works					
	<p>Gravel Collection</p> <p>Gravel will be collected and removed from the property from 3 identified locations adjacent to the southern property boundary.</p> <p>The three (3) gravel locations are indicated on the attached maps in Appendix A.</p> <p>Gravel will be collected from the soil surface using the Positrack 4 in 1 bucket and placed into a body truck and trailer for off property disposal.</p> <p>All care and attention will be taken to ensure only gravel material will be collected. However, it is unavoidable that a small volume of topsoil will also be collected during this activity.</p> <p>Any remaining gravel will be collected using hand rakes and shovels.</p> <p>The areas will then be levelled and finished with a spreader bar attached to the Positrack machine.</p>	<p>Light Vehicle</p> <p>Positrack with 4 in 1 bucket and spreaderbar</p> <p>Body truck and dog trailer.</p> <p>Hand rakes and shovels</p>	<p>3 to 4 people for this activity due to the hand raking.</p> <p>1 x Arrow Supervisor</p> <p>1 x Positrack Operator</p> <p>1 x Truck Driver</p> <p>1 x Labourer</p>	<p>Duration:</p> <p>1 day</p>	<p>At the locations as indicated on the Map.</p>	<p>Dry soil conditions only</p>
	<p>Plainview 3 Ground Subsidence</p> <p>The Plainview 3 ground subsidence is located in the south-eastern corner of the property (2SP231642).</p> <p>Ground subsidence represents an area approximately 10 x 15m (150m²), with an average settlement depth of 200mm.</p> <p>Works should commence when the land is dry and the area of subsidence is not holding water or elevated moisture.</p> <p>The previous disturbance area shall be surveyed with corner pegs temporarily installed to indicate the limit of works. All earthworks shall be confined to this area.</p> <p>The Excavator will, if necessary, excavate the area of subsidence to evaluate the soils, remove unsuitable soils or place suitable soils in the area to return the area to a stable profile.</p> <p>Any unsuitable material identified from this area will be removed off site.</p> <p>The grader will evenly win soil material from the surrounding disturbance area and fill the area of subsidence.</p> <p>If necessary to fill the area of subsidence additional suitable topsoil clear of weeds and seeds in accordance with the requirements of the Biosecurity Act (Qld), will be brought onto the site.</p>	<p>Grader (14M)</p> <p>Excavator or backhoe</p> <p>Lorry (for soil)</p>	<p>1 x Arrow Supervisor</p> <p>1 x Grader Driver</p> <p>1 x Excavator Driver</p>	<p>Duration:</p> <p>2 days</p>	<p>At the location as indicated on the Map.</p>	<p>Dry soil conditions only</p>

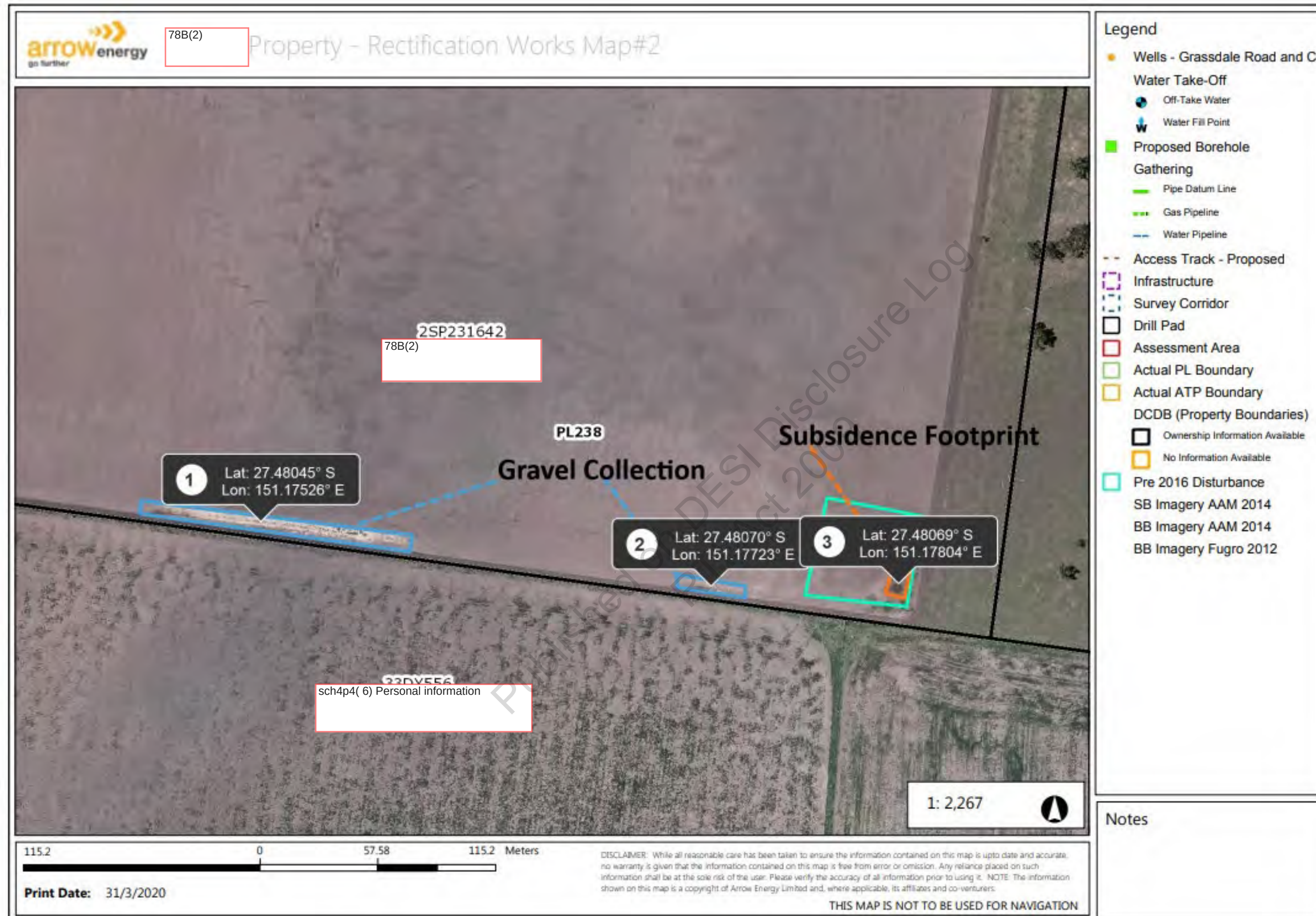
	<p>The subsided area will be wheel rolled after each soil layer is added to ensure adequate compaction is achieved to prevent further ground subsidence.</p> <p>Soil layers will continue until the subsided area is level with the surrounding landform. The area will then be scarified to 200mm to relieve any surface soil compaction.</p> <p>The area of subsidence will be test for contaminants at the completion of the above works and the results provided to the Landholder. If necessary as a result of the testing, further remediation works will be undertaken, in consultation with the Landholder.</p> <p>The Tenement Holder will at the same time test the area identified in the map as xxx for contaminants.</p>					
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Appendix A 78B(2) Property – Rectification Works Maps







Appendix C – Well Completion Report and Well Abandonment Report

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PLAINVIEW-3

ATP 683P

AUTHOR:

sch4p4(6) Personal information

GEOLOGIST

PLAINVIEW-3

GENERAL DATA

Well Name and Number		Plainview-3
Petroleum Tenure		ATP 683P
Location	Latitude	27° 28' 50.2457" S
	Longitude	151° 10' 40.5697" E
	Easting	319 980.930 E
	Northing	6 959 008.288 N
	Zone	56
	Datum	GDA-94
Nearest Town		Cecil Plains (6km S)
Nearest Wells		Plainview-2 (5.6km NE) Tipton West-3 (5.5km NW) Meenawarra-3 (5km S)
Nearest Seismic Line		NA
Mapsheet	1:100,000	Dalby
	1:250,000	Dalby (SG56-13)
Elevation	GL	351.41m
	KB	NA
TD		564.19m
Final Completion Interval		NA
Well Type		HQ Corehole
Status		Plugged and Abandoned
Spud Date		12/04/08
TD Date		29/04/08
Rig Release Date		02/05/08
P & A Date		18/05/09
Drilling Contractor		Major Drilling
Rig Type and Number		Rig Major P70
Operator		Arrow Energy Ltd
Tenure Holder		Arrow (Tipton) Ltd
Joint Venture Partner		40% Beach Petroleum (Surat) Pty Ltd

LITHOSTRATIGRAPHIC UNITS

Formation	Predicted Top (m)	Actual Top (m)	Thickness (m)	Elevation (m)	Net Coal (m)
Alluvium	0	0	55.95	351.41	0
Springbok	55	55.95	95	295.46	0
Kogan	120	150.95	31.82	200.46	2.1
Macalister	147	182.77	47.55	168.64	2.17
Wambo	202	230.32	40.76	121.09	1.59
Iona	253	271.08	30.31	80.33	2.35
Argyle	283	301.39	52.83	50.02	5.15
Taroom	351	354.22	133.04	-2.81	13.13
Eurombah	467	487.26	-	-135.9	0.68
TD	500	564.19	-	-	-

HOLE SIZE

Interval (from/to) (m)	Hole Size	Bit Type	Fluid	Additives
0 – 6.0	7 7/8" (200mm)	PDC	Water	-
6.0 – 143.5	5 3/4" (146mm)	PDC	Water	Liquid Polymer, CR-650
143.5 – 564.19	96mm	HQ3	Water	Liquid Polymer, CR-650

CASING

Casing Type	Interval (from/to) (m)	ID (mm)	OD (mm)	API Grade	CPL	Weight (kg/m)
Conductor	0 – 6.0	155.5	168.3	-	-	-
Surface Casing	0 – 143.5	102.0	114.0	-	Threaded	-

CASING ANNULUS

Interval (from/to) (m)	Type	Quantity of cement	Grout Volume (L)	SG	H ₂ O (L/kg bag)	Chase Water Volume (L)
0 – 6.0	Cement	9 x 20kg bags	205	1.65	12.5	0
0 – 143.5	Cement	41 x 40kg bags	1590	1.68	24.97	1049

PLUG DETAILS

Interval (from/to) (m)	Type	Water Volume (L)	Bags	Grout Volume (L)	SG	H ₂ O (L / kg bag)
0 – 564.19	Cement	4562	182 x 40kg bags	7079	1.68	25L

WIRELINE LOGS

LOG	INTERVAL (from/to) m
Calliper	0.38 – 540.98
Gamma	0.00 – 538.8
Density (long spaced)	0.55 – 541.35
Density (short spaced)	0.63 – 541.33
Neutron	137.32 – 541.02
Resistivity (16N)	137.01 – 540.71
Resistivity (64N)	136.4 – 540.1
Lateral	137.32 – 541.02

DRILLSTEM AND INJECTION FALLOFF TESTS

DST ID	From	To	Reservoir Pressure	Permeability	Skin Factor	Analysis Type
DST-1	312.5	338.4	473.9	81.38	15.35	Build Up
DST-2	398	423.9	584.16	184.9	30.04	Build Up
DST-3	448	473.9	647	9.007	0.18	Build Up
DST-4	161	564.2	221.2	3.61	-3.44	Build Up

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2. SUMMARY

Plainview-3 was drilled by Arrow Energy Ltd through April and May, 2008 to a total depth (TD) of 564.19m in ATP 683P. The well was designed to test gas contents and coal properties in the southermost part of PLA 238, west of the Horrane fault. It was located in an area free of intensive cultivation and a likely early site for development drilling when a PL was granted.

A 7 7/8" (200mm) hole was drilled on Water using a PCD bit to a depth of 6m for the Conductor section. The Conductor casing was installed and cemented using 205L of cement.

The Surface section was drilled on Water, Liquid Polymer and CR-650 with a 5 3/4" (146mm) PCD bit to a depth of 143.5m. No difficulties were encountered.

Surface casing of 4 1/2" (114mm) was run to a depth of 142.5m. A total quantity of 1590L of cement with an SG of 1.68 and 1049L of chase water was used to cement the Surface casing.

The BOP was nipped up and a successful pressure test conducted at 300psi. The BHA (3 3/4" (96mm) HQ bit) was then run in the hole and the cement plug tagged at 122m. The hole was then cored on Water, Liquid Polymer and CR-650 to a depth of 564.19m (TD). Core recovery was excellent (422.05m of core recovered from 420.69m of drilling – >100%). A net coal thickness of 27.17m was recorded (a field coal thickness of 29.4m was recorded where all desorption samples were assumed to be stone free coal). The entirety of the net total was obtained within the Walloon Coal Measures.

A total of 27 coal samples were taken for Desorption, Coal Proximate, Langmuir Isotherm as well as Maceral and Vitrinite Reflectance analysis across the Walloon Coal Measures. The hole was geophysically logged on the 1st of May, 2008. DST testing was conducted from the 2nd to the 5th of May, 2008 over 4 separate intervals. The top depths of each interval were 161m, 312m, 398m and 448m.

The Plainview-3 wellsite has been rehabilitated with the well being plugged and abandoned.

3. WELL HISTORY

3. a. BASIC WELL INFORMATION

Well Name and Number		Plainview-3
Petroleum Tenure		ATP 683P
Location	Latitude	27° 28' 50.2457" S
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Rig Type and Number		Rig Major P70
Operator		Arrow Energy Ltd
Tenure Holder		Arrow (Tipton) Ltd
Joint Venture Partner		40% Beach Petroleum (Surat) Pty Ltd

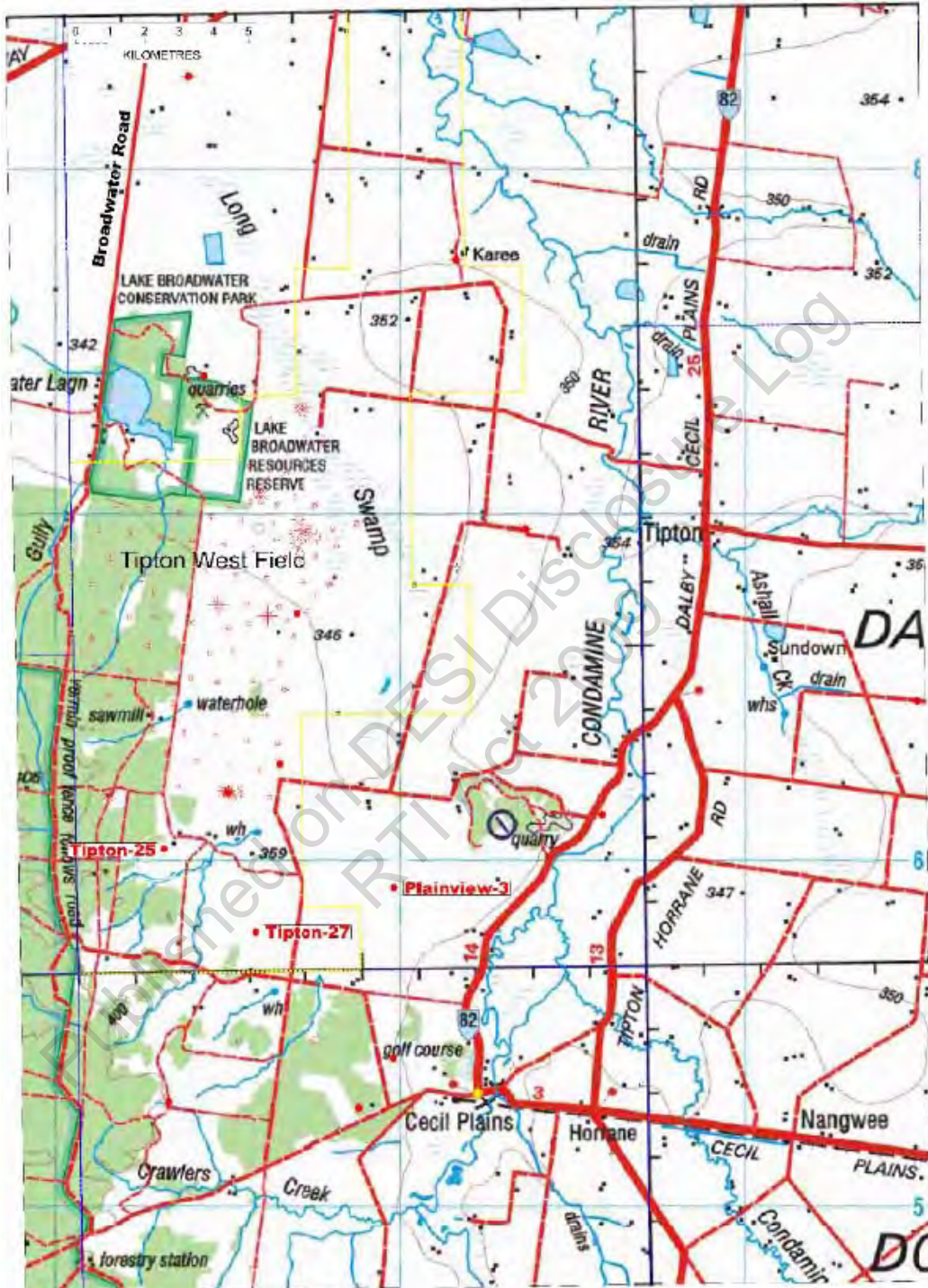


Figure 1: Location map of Plainview-3

3. b. PARTICIPANTS AND CONTRACTORS

Permit Holder:

Arrow (Tipton) Ltd
Level 13, 10 Eagle Street
Brisbane, QLD, 4000

Operator:

Arrow Energy Ltd
Level 13, 10 Eagle Street
Brisbane, QLD, 4000

Joint Venture Partner:

Beach Petroleum (Surat) Pty Ltd
25 Cnyngnam St
Glenside, SA, 5065

Landholder:

78B(2)

Drilling Contractor:

Major Drilling Pty. Ltd.
42 Suscatand Street
ROCKLEA QLD 4106
P.O. Box 469
SALISBURY QLD 4107

Wireline Loggers:

Pilbara Wireline Services
Unit 2/7 Pitino Crt
Osbourne Park, WA 6017

Desorption Sampling:

Earth Data Pty Ltd
2/5 Anlaby St
Maitland, NSW, 2320

Isotherm Analysis:

Earth Resources Consulting Pty Ltd
PO Box 54
Cooparoo, QLD, 4151

Misc Lab Sampling:

ACS Laboratories Pty Ltd
8 Cox St
Windsor, QLD, 4030



Surveyors:

Cottrell Cameron & Steen Surveys Pty Ltd
PO Box 4104
Eight Mile Plains, QLD, 4113

3. c. DRILLING DETAILS

HOLE SIZE

Interval (from/to) (m)	Hole Size	Bit Type	Fluid	Additives
0 – 6.0	7 7/8" (200mm)	PDC	Water	-
6.0 – 143.5	5 3/4" (146mm)	PDC	Water	Liquid Polymer, CR-650
143.5 – 564.19	96mm	HQ3	Water	Liquid Polymer, CR-650

CASING

Casing Type	Interval (from/to) (m)	ID (mm)	OD (mm)	API Grade	CPL	Weight (kg/m)
Conductor	0 – 6.0	155.5	168.3	-	-	-
Surface Casing	0 – 143.5	102.0	114.0	-	Threaded	-

CASING ANNULUS

Interval (from/to) (m)	Type	Quantity of cement	Grout Volume (L)	SG	H ₂ O (L/kg bag)	Chase Water Volume (L)
0 – 6.0	Cement	9 x 20kg bags	205	1.65	12.5	0
0 – 143.5	Cement	41 x 40kg bags	1590	1.68	24.97	1049

PLUG DETAILS

Interval (from/to) (m)	Type	Water Volume (L)	Bags	Grout Volume (L)	SG	H ₂ O (L / kg bag)
0 – 564.19	Cement	4562	182 x 40kg bags	7079	1.68	25L

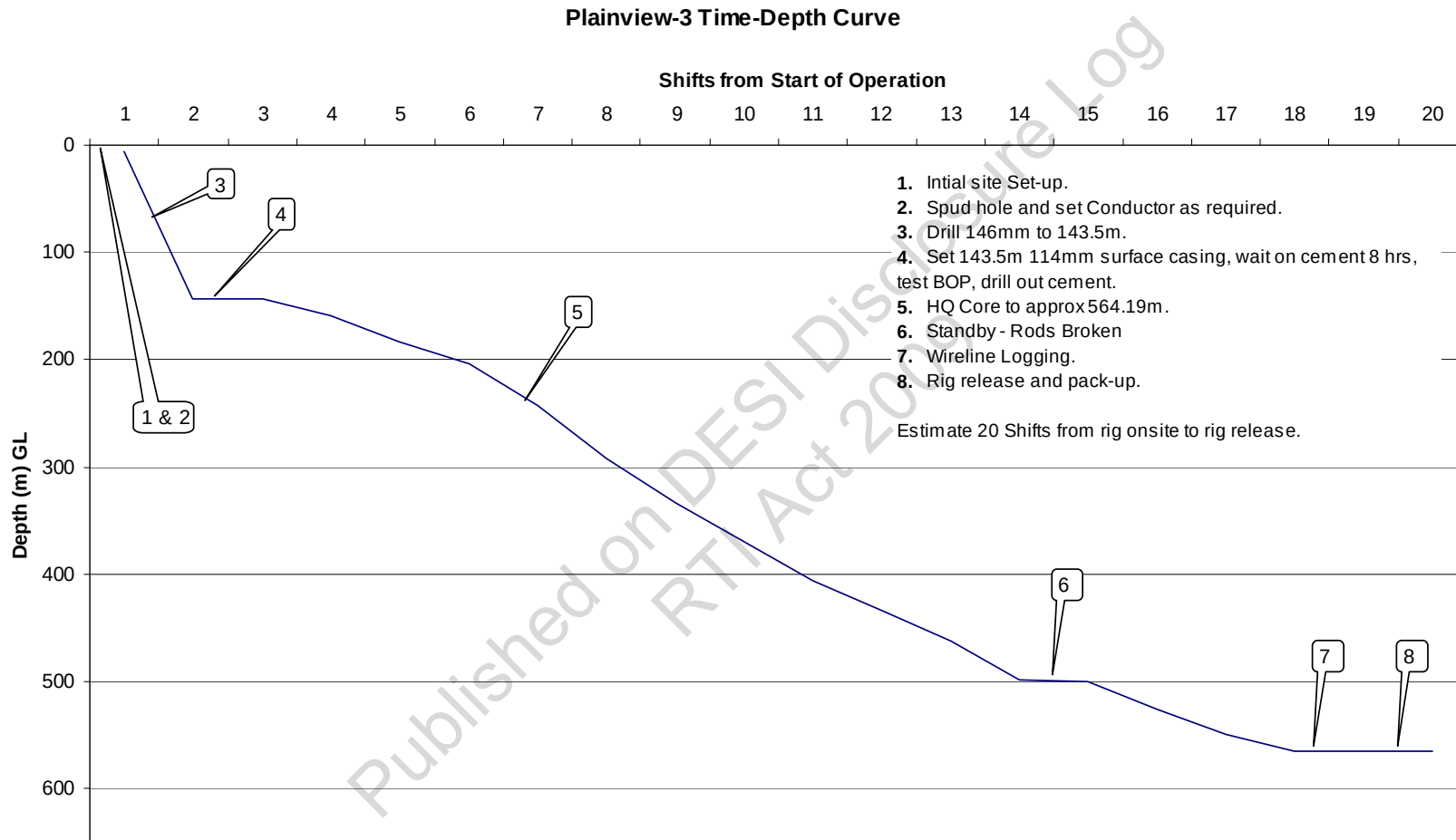


Figure 2: Plainview 3 Time Depth Chart. The well took 20 days to complete.

4. GEOLOGY

4. a. GEOLOGICAL SETTING

The Surat Basin is a large intracratonic basin of Mesozoic age covering approximately 300,000km² of southeastern Queensland and northern New South Wales. The basin forms part of the larger Great Australian Basin (Green et al., 1997), interfingering westward across the Nebine Ridge with the Eromanga Basin, and eastward across the Kumbarilla Ridge with the Clarence-Moreton Basin (Exon, 1976). Basin Blocks consisting of the Central West Fold Belt and the New England Fold Belt limit the basin to the south, while in the north the basin unconformably overlies Triassic and Permian sediments of the Bowen Basin.

The Surat Basin contains up to 2,500m of sedimentary rocks deposited during the later Triassic to Early Cretaceous periods (Figure 4). The succession in the basin consists of five fining-upwards sedimentary cycles dominated by fluvio-lacustrine deposits (Exon, 1976; Exon and Burger, 1981; Day et al., 1983). The lower part of each cycle typically comprises coarse-grained mature sandstone, grading up into more labile sandstone and siltstone, with mostly siltstone, mudstone and coal in the upper part. In the Cretaceous, inundation of the land through an increase in sea level led to deposition of predominantly coastal plain and shallow sediments in two cycles.

Structurally, the Surat Basin is relatively simple (Figure 3), with the area of maximum deposition in the Mimosa Syncline, which overlies the thickest Permian-Triassic rocks in the Taroom Trough of the underlying Bowen Basin (Day et al., 1983). Major faulting within the basin predominantly mirrors basinal boundary faults of the underlying Bowen Basin. There is substantial folding across the basin, which is due to compaction and draping, as well as some rejuvenation of older pre-Jurassic structures and faults. Formations outcrop along the northern erosional boundary and dip gently to the south and southwest at less than 5°.

A simplified stratigraphic section of the Surat Basin is shown in Figure 4. Basin fill started with the Precipice Sandstone, which was overlain by the more silty Evergreen Formation. A renewal of sedimentation laid down the Hutton Sandstone. Above these the Walloon Coal Measures were conformably deposited. Overlying the Walloon Coal Measures with a slight unconformity is the Springbok Sandstone (or Kumbarilla Beds further east). The Springbok sandstone is overlain by the Westbourne Formation and Gubbermunda Sandstone. In the study area, the Surat Basin sequence is overlain by tertiary sediments and alluvial deposits.

The Walloon Coal Measures are usually shales, siltstones, and claystones, with fine to medium calcareous sandstones and greywackes. There is also a reasonable amount of coal present (Gould, 1968). Individual lithologies usually form lenses that are only of limited lateral extent (Yago et al., 1994),

although sand bodies may be quite extensive and thick (up to 30m; Fielding, 1993). Coal bodies are generally sheet-like when viewed locally, but lenticular over wider areas (Yago & Fielding, 1996).

Where unweathered, the Walloon Coal Measures are usually light grey sandstones, siltstones and mudstones. Sandstones are generally fine to medium-grained, poorly-sorted and angular to subrounded. Finer-grained layers usually have a silky to soapy texture, and are poorly laminated. The mudrock units frequently contain nodular masses of siderite (Fielding, 1993).

The base of the Walloon Coal Measures is defined by the first significant coarse quartz sand of the Hutton Sandstone. This is usually indicated on wireline logs by a sharp SP break, and a lesser gamma break.

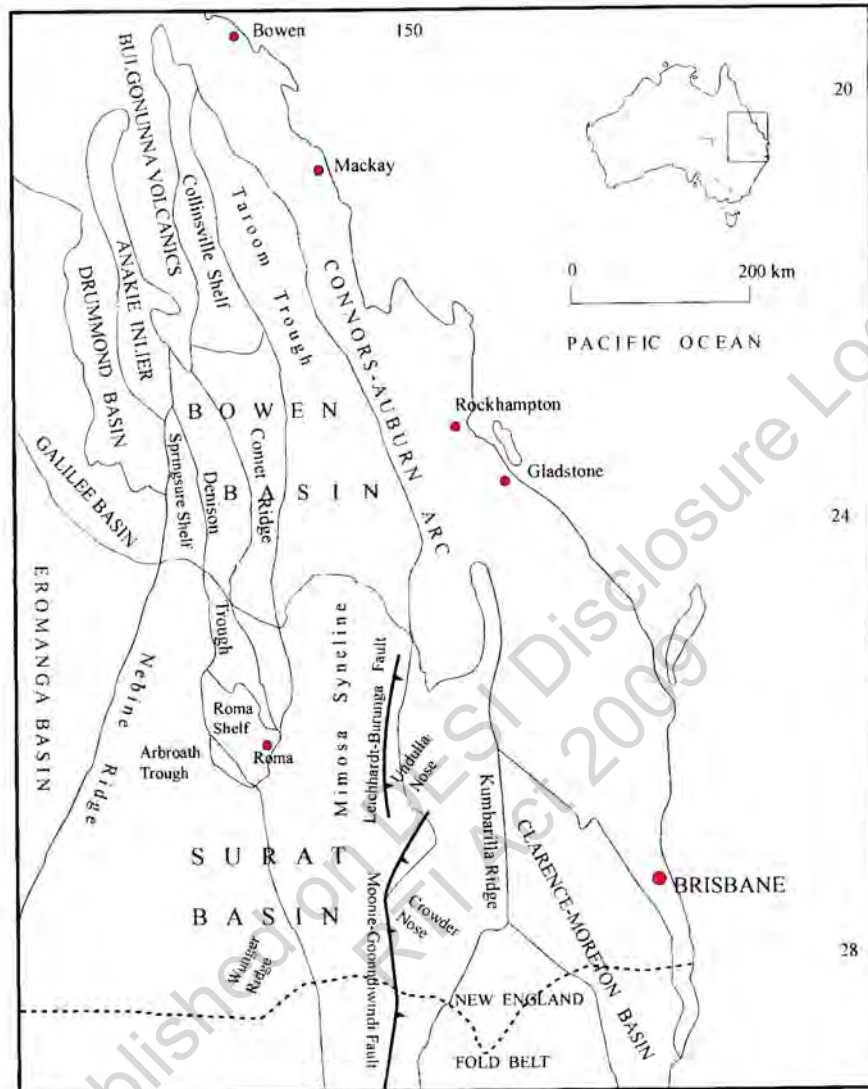


Figure 3: Tectonic Setting of the Surat Basin (after Nguyen and Dewhirst, 2002)

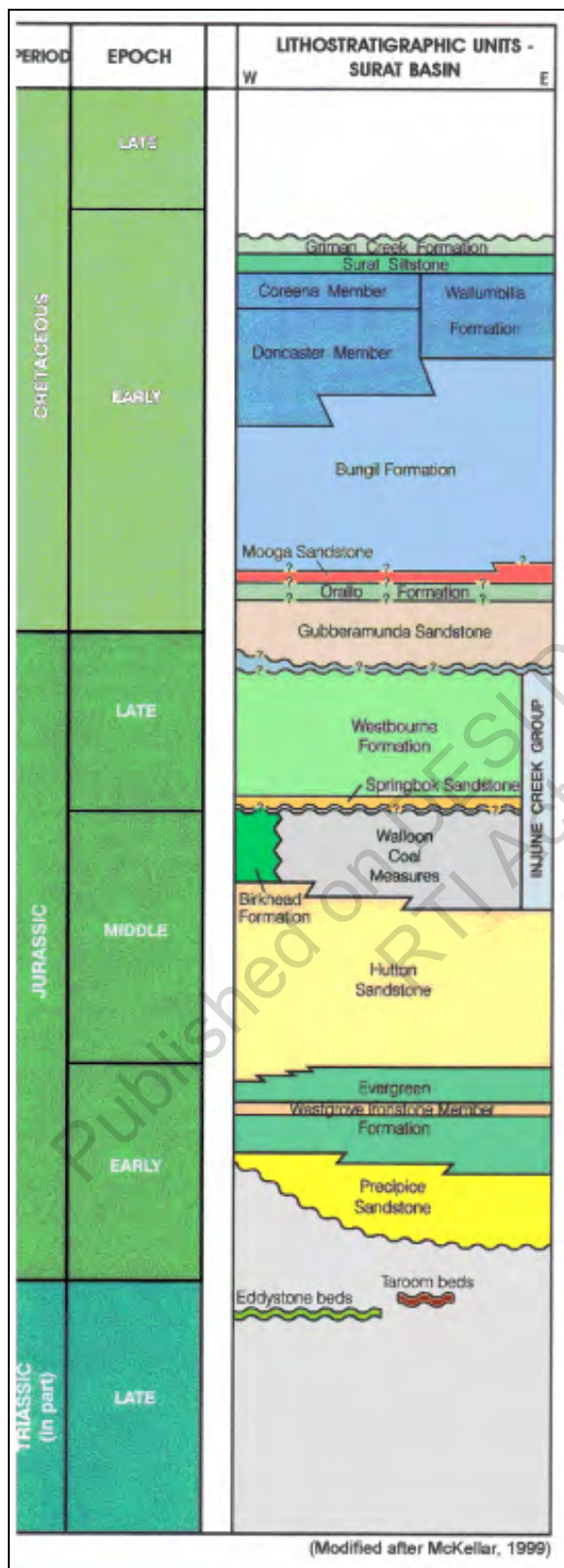


Figure 4: Clarence-Moreton Basin Stratigraphic Section

4. b. STRATIGRAPHY

Formation	Predicted Top (m)	Actual Top (m)	Thickness (m)	Elevation (m)	Net Coal (m)
Alluvium	0	0	55.95	351.41	0
Springbok	55	55.95	95	295.46	0
Kogan	120	150.95	31.82	200.46	2.1
Macalister	147	182.77	47.55	168.64	2.17
Wambo	202	230.32	40.76	121.09	1.59
Iona	253	271.08	30.31	80.33	2.35
Argyle	283	301.39	52.83	50.02	5.15
Taroom	351	354.22	133.04	-2.81	13.13
Eurombah	467	487.26	-	-135.9	0.68
TD	500	564.19	-	-	-

4. c. SAMPLING

Core:

Continuous HQ core was recovered from 143.5m to 564.19m. This was logged onsite by the wellsite geologists, boxed and digitally photographed.

Wireline Logs:

LOG	INTERVAL (from/to) m
Calliper	0.38 – 540.98
Gamma	0.00 – 538.8
Density (long spaced)	0.55 – 541.35
Density (short spaced)	0.63 – 541.33
Neutron	137.32 – 541.02
Resistivity (16N)	137.01 – 540.71
Resistivity (64N)	136.4 – 540.1
Lateral	137.32 – 541.02

Gas Sampling:

None Conducted.

Water Analysis:

None Conducted.

Core Analysis:

See Appendix 9.

Desorption:

Selected coal cores were taken immediately upon recovery (prior to detailed logging) and placed in desorption canisters and desorbed as per Australian Standard AS 3980-1999. Coal Proximate Analyses were conducted on each can. Results are shown in the following table:

Sample ID	Time on Test (days)	Depth From (mMD)	Depth To (mMD)	Thickness (m)	Q1 (m3/t) Daf	Q2 (m3/t) Daf	Q3 (m3/t) Daf	Q1+Q2 +Q3 (m3/t) Daf	Q1+Q2 +Q3 (m3/t) Raw	Sorption Time (days)	Diffusivity (sec-1)	Rd	Moisture	Ash	Valid Sample
PV3ED565	55.00	172.50	173.50	1.00	0.06	1.76	0.63	2.45	2.09	22.73	3.22E-06	1.41	7.8	17.4	Y
PV3ED244	72.00	188.18	189.17	0.99	0.11	1.71	0.73	2.55	2.10	30.41	6.45E-06	1.40	7.5	15.4	Y
PV3ED216	65.00	190.09	190.45	0.36	0.18	2.15	0.47	2.80	2.10	14.26	1.64E-05	1.46	8.0	24.0	Y
PV3ED033	73.00	223.33	223.81	0.48	0.16	1.89	0.17	2.22	1.55	4.95	1.71E-05	1.43	7.3	27.3	Y
PV3ED255	65.00	232.62	233.02	0.40	0.13	3.13	0.59	3.85	2.28	16.00	5.70E-06	1.35	6.3	16.7	Y
PV3ED100	63.00	270.56	271.59	1.03	0.23	2.84	0.85	3.92	2.93	17.02	1.09E-05	1.50	4.6	32.3	Y
PV3ED622	64.00	273.59	274.55	0.96	0.21	3.14	1.00	4.35	3.66	13.84	7.49E-06	1.37	5.9	17.9	Y
PV3ED158	72.00	302.07	302.90	0.83	0.20	2.08	0.69	2.97	2.43	7.13	1.51E-05	1.60	6.5	45.2	Y
PV3ED308	62.00	315.81	316.14	0.33	0.30	3.96	0.50	4.76	3.97	5.99	1.55E-05	1.44	6.7	27.3	Y
PV3ED070	62.00	323.58	324.06	0.48	0.21	2.04	1.25	3.50	3.08	25.89	1.10E-05	1.58	4.3	38.5	Y
PV3ED580	62.00	325.49	326.27	0.78	0.28	3.49	1.16	4.93	4.12	15.94	7.86E-06	1.36	6.1	16.2	Y
PV3ED236	61.00	327.87	328.80	0.93	0.26	2.43	0.57	3.26	2.69	6.36	1.70E-05	1.45	5.7	25.3	Y
PV3ED276	70.00	343.08	343.42	0.34	0.28	3.63	1.00	4.91	3.45	18.27	1.08E-05	1.66	4.4	46.8	Y
PV3ED695	66.00	398.63	399.11	0.48	0.24	3.50	1.05	4.79	3.56	11.92	1.15E-05	1.73	8.3	51.0	Y
PV3ED581	63.00	410.01	410.49	0.48	0.30	4.79	0.81	5.90	3.44	4.94	1.20E-05	1.61	4.0	42.5	Y
PV3ED666	39.00	415.45	416.46	1.01	0.23	1.47	0.62	2.32	1.78	12.10	3.40E-05	1.55	3.5	37.3	Y
PV3ED682	62.00	418.55	419.16	0.61	0.27	2.29	1.61	4.17	3.20	Not Reached	1.52E-05	1.54	5.7	34.9	Y
PV3ED227	62.00	449.80	450.21	0.41	0.80	5.73	0.99	7.52	3.51	8.58	3.44E-05	1.65	5.4	46.4	Y
PV3ED549	65.00	450.47	451.49	1.02	0.23	3.22	0.68	4.13	1.86	6.00	6.49E-06	1.66	6.9	47.3	Y
PV3ED696	61.00	451.49	452.54	1.05	0.29	1.47	0.32	2.08	1.62	6.00	4.23E-05	1.45	4.6	28.7	Y
PV3ED011	67.00	459.81	460.82	1.01	0.23	1.35	0.30	1.88	1.43	5.58	3.85E-05	1.61	3.9	40.5	Y



PV3ED036	64.00	461.33	462.35	1.02	0.38	2.70	0.37	3.45	2.46	5.58	3.74E-05	1.47	3.8	28.1	Y
PV3ED102	62.00	464.76	465.72	0.96	0.21	1.27	1.47	2.95	2.25	Not Reached	1.28E-05	1.51	2.8	33.0	Y
PV3ED681	62.00	465.99	467.03	1.04	0.16	3.31	1.63	5.10	4.25	35.13	3.85E-06	1.36	3.1	16.3	Y
PV3ED687	37.00	469.05	469.56	0.51	0.14	3.73	1.64	5.51	4.58	43.08	1.98E-06	1.39	3.3	17.5	Y
PV3ED683	63.00	478.94	479.49	0.55	0.11	3.22	1.43	4.76	3.68	26.52	2.02E-06	1.48	2.9	29.3	Y
PV3ED088	63.00	479.69	480.37	0.68	0.35	2.16	1.82	4.33	2.97	Not Reached	2.49E-05	1.49	3.3	28.2	Y

Published on DESI Disclosure
RTI Act 2009

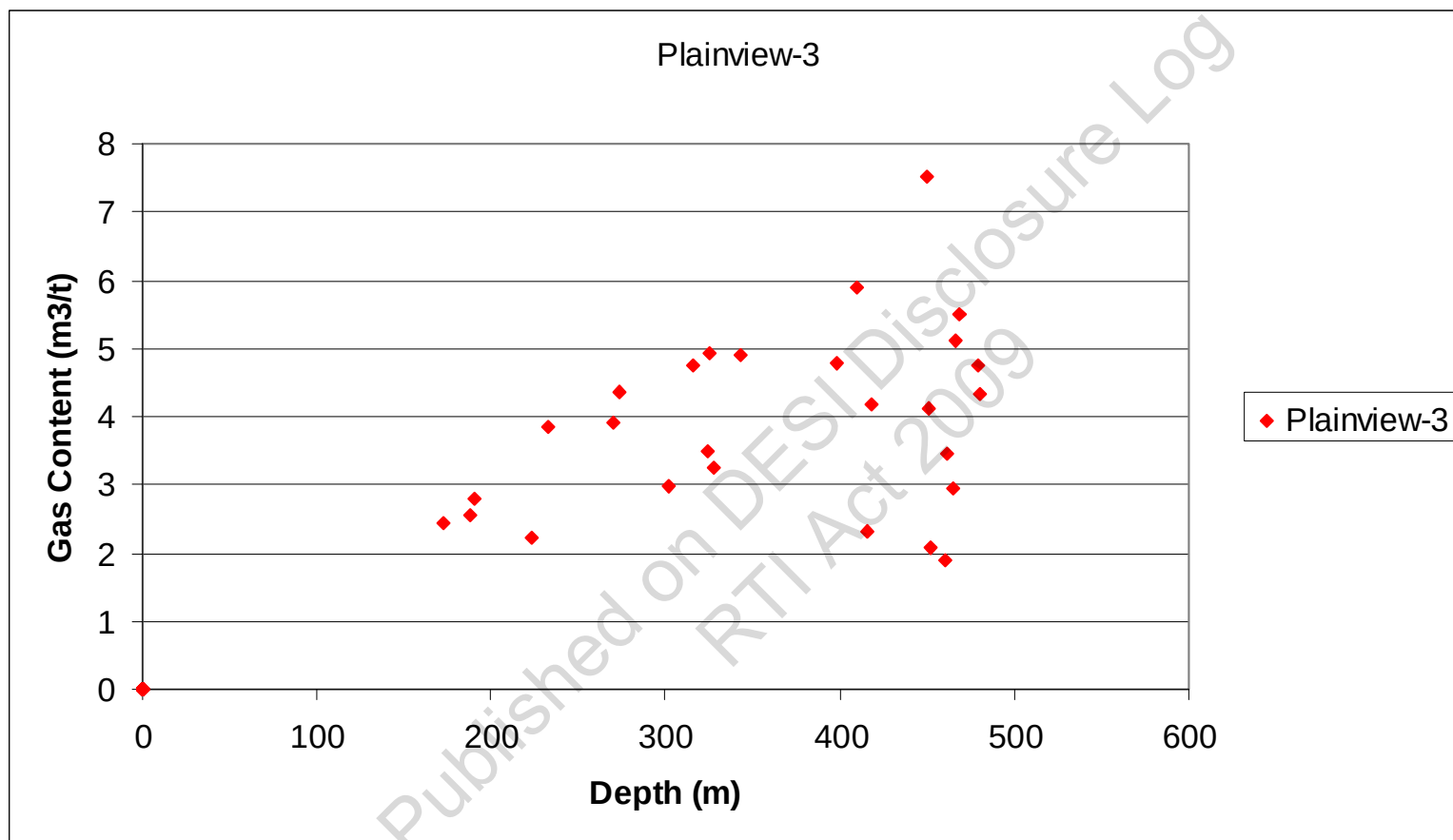


Figure 5: Plainview-3 DAF Desorption results compared to depth

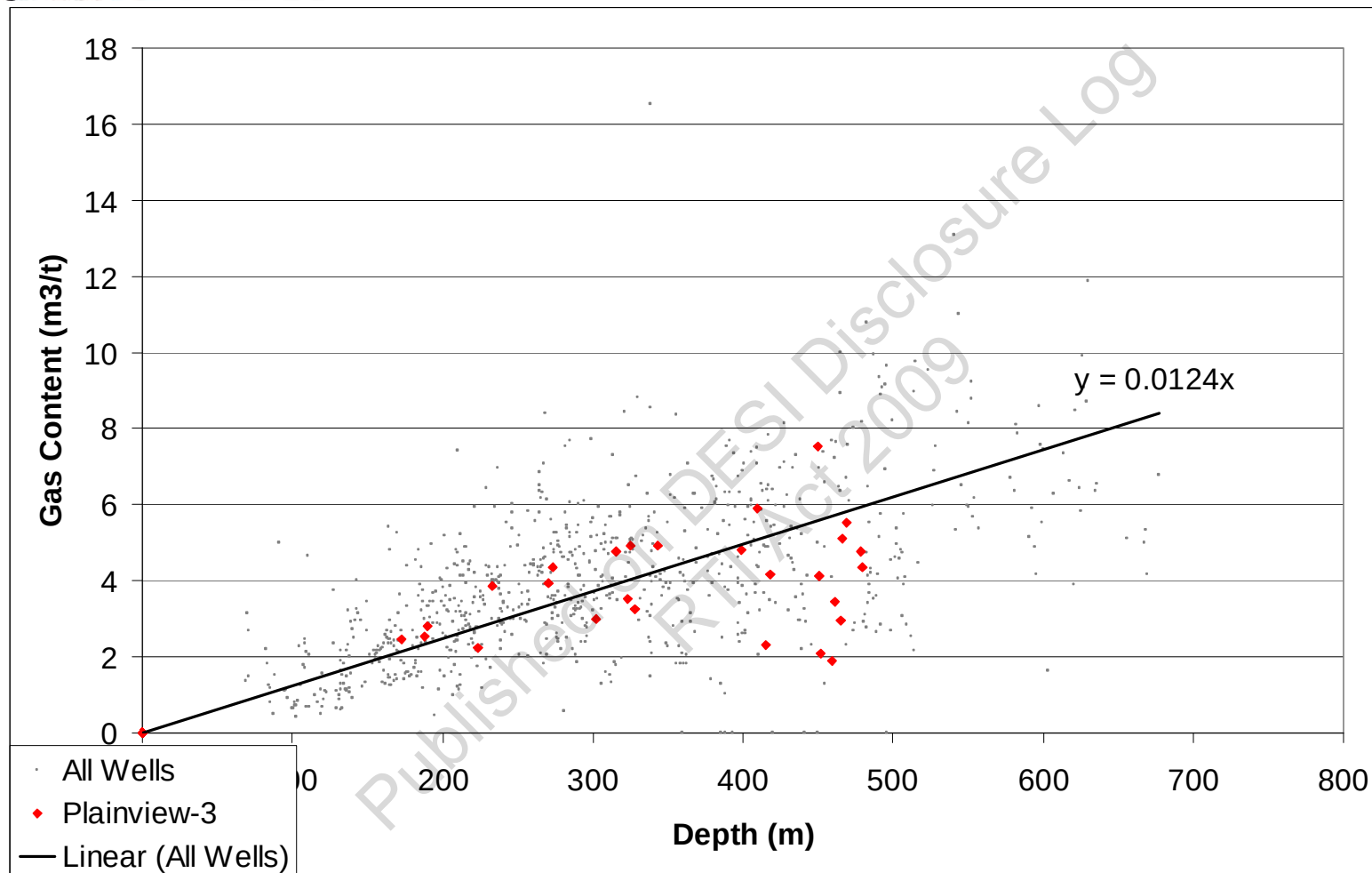


Figure 6: Plainview-3 Desorption results compared to other Surat data

Langmuir Adsorption Isotherms:

Coal Samples were grouped into seam packages after Desorption was complete. These samples were evaluated for their methane adsorption properties. Results are shown in the following table:

Sample Number	Depth From (mMD)	Depth to (mMD)	Number cans	Temperature (Deg c)	Ash (%)	Moist (%)	Density (g/cc)	As analysed (raw)		DAF	
								PL (Mpa,abs)	VL (cc/g)	PL (Mpa,abs)	VL (cc/g)
1	172.5	173.5	1	35	14.5	10.9	1.371	4.05	9.35	4.05	12.53
2	188.18	190.45	2	35	23.8	11.1	1.413	4.38	8.87	4.38	13.61
3	223.33	233.02	2	35	22.2	10.4	1.397	4.56	9.73	4.56	14.44
4	270.56	274.55	2	35	20.7	7.9	1.373	4.33	10.89	4.33	15.25
5	302.07	302.9	1	39	31.8	9.6	1.52	4.72	7.47	4.72	12.74
6	315.81	316.14	1	39	24.6	10.3	1.45	5.33	9.16	5.33	14.06
13	323.58	324.06	1	39	35.5	7.9	1.56	4.64	7.56	4.64	13.34
7	323.58	328.8	3	39	26.1	8.7	1.45	4.87	10.36	4.87	15.88
14	325.49	326.27	1	39	18.1	8.9	1.39	4.95	11.11	4.95	15.21
8	343.08	410.49	3	39	38.4	10.9	1.57	5.38	7.25	5.38	14.28
9	415.45	419.16	2	42	36.7	9.4	1.58	4.72	6.8	4.72	12.61
15	415.45	416.46	1	42	36.6	7.9	1.58	5.45	7.49	5.45	13.49
16	418.55	419.16	1	42	37.4	11.2	1.58	4.78	6.19	4.78	12.07
10	449.8	452.54	3	45	36.6	10.1	1.55	5.08	7.42	5.08	13.92
17	449.8	450.21	1	45	44.5	11.2	1.74	6.05	7.25	6.05	16.37
18	450.47	451.49	1	45	24.6	7.2	1.47	3.73	7.85	3.73	11.51
19	451.49	452.54	1	45	41.7	11.1	1.59	5.82	7.04	5.82	14.92
11	459.81	469.56	5	45	24	6.4	1.46	3.67	8.64	3.67	12.42
20	459.81	460.82	1	45	36.1	6.7	1.59	4.41	7.41	4.41	12.94
21	461.33	462.35	1	45	21.5	6.8	1.42	4.46	10.64	4.46	14.83
22	465.99	467.03	1	45	11.3	5.6	1.33	4.34	12.29	4.34	14.8
12	478.94	480.37	2	45	24.5	7.6	1.47	3.53	8.15	3.53	12

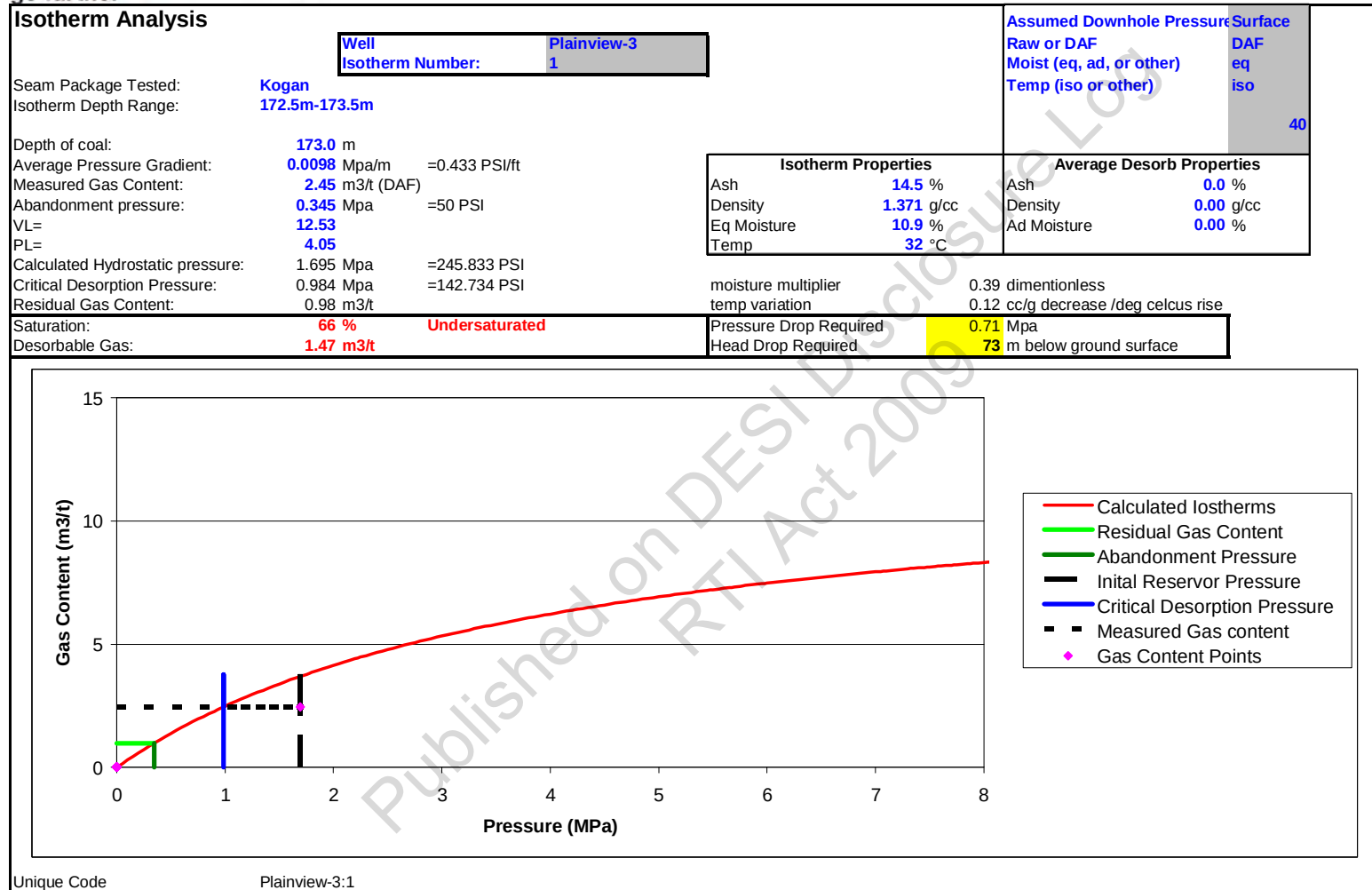
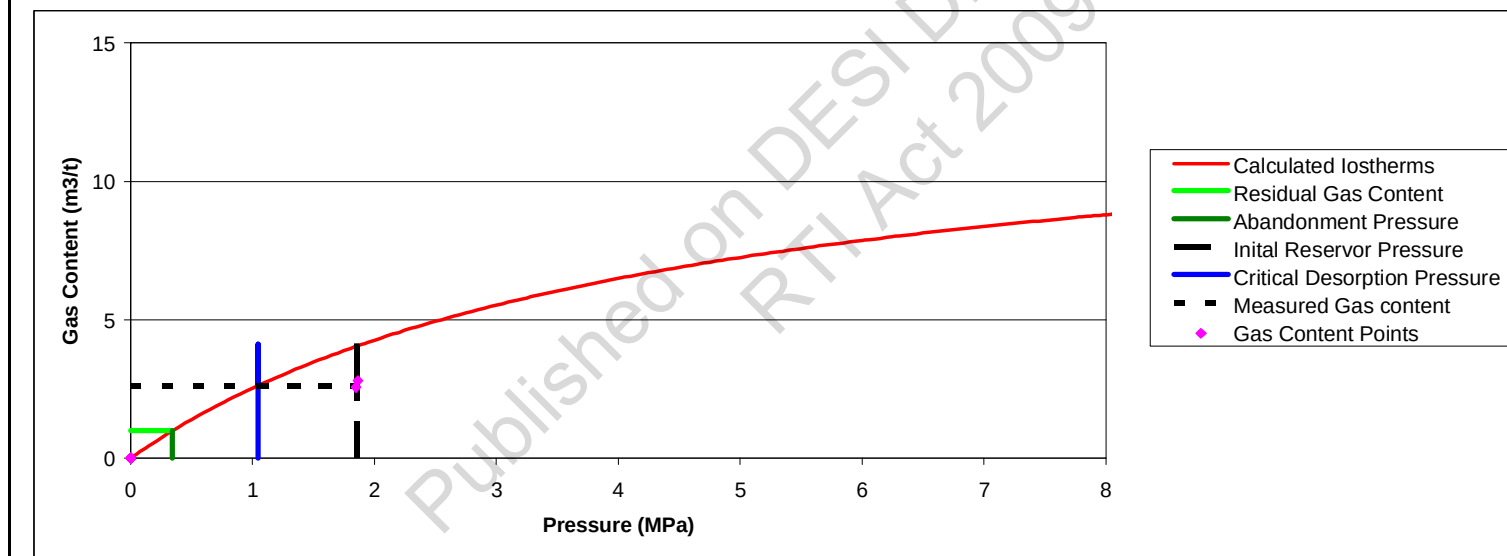


Figure 7: Isotherm 1 analysis

Isotherm Analysis

Well Isotherm Number: Plainview-3 2		Assumed Downhole Pressure Surface Raw or DAF Moist (eq, ad, or other) Temp (iso or other)	DAF eq iso 40
Seam Package Tested:	Macalister		
Isotherm Depth Range:	188.18m-190.45m		
Depth of coal:	189.1 m		
Average Pressure Gradient:	0.0098 Mpa/m =0.433 PSI/ft		
Measured Gas Content:	2.62 m3/t (DAF)		
Abandonment pressure:	0.345 Mpa =50 PSI		
VL=	13.61		
PL=	4.38		
Calculated Hydrostatic pressure:	1.853 Mpa =268.707 PSI		
Critical Desorption Pressure:	1.046 Mpa =151.66 PSI		
Residual Gas Content:	0.99 m3/t		
Saturation:	65 % Undersaturated		
Desorbable Gas:	1.63 m3/t		
		moisture multiplier	0.39 dimensionless
		temp variation	0.12 cc/g decrease /deg celcius rise
		Pressure Drop Required	0.81 Mpa
		Head Drop Required	82 m below ground surface



Unique Code Plainview-3:2

Figure 8: Isotherm 2 analysis

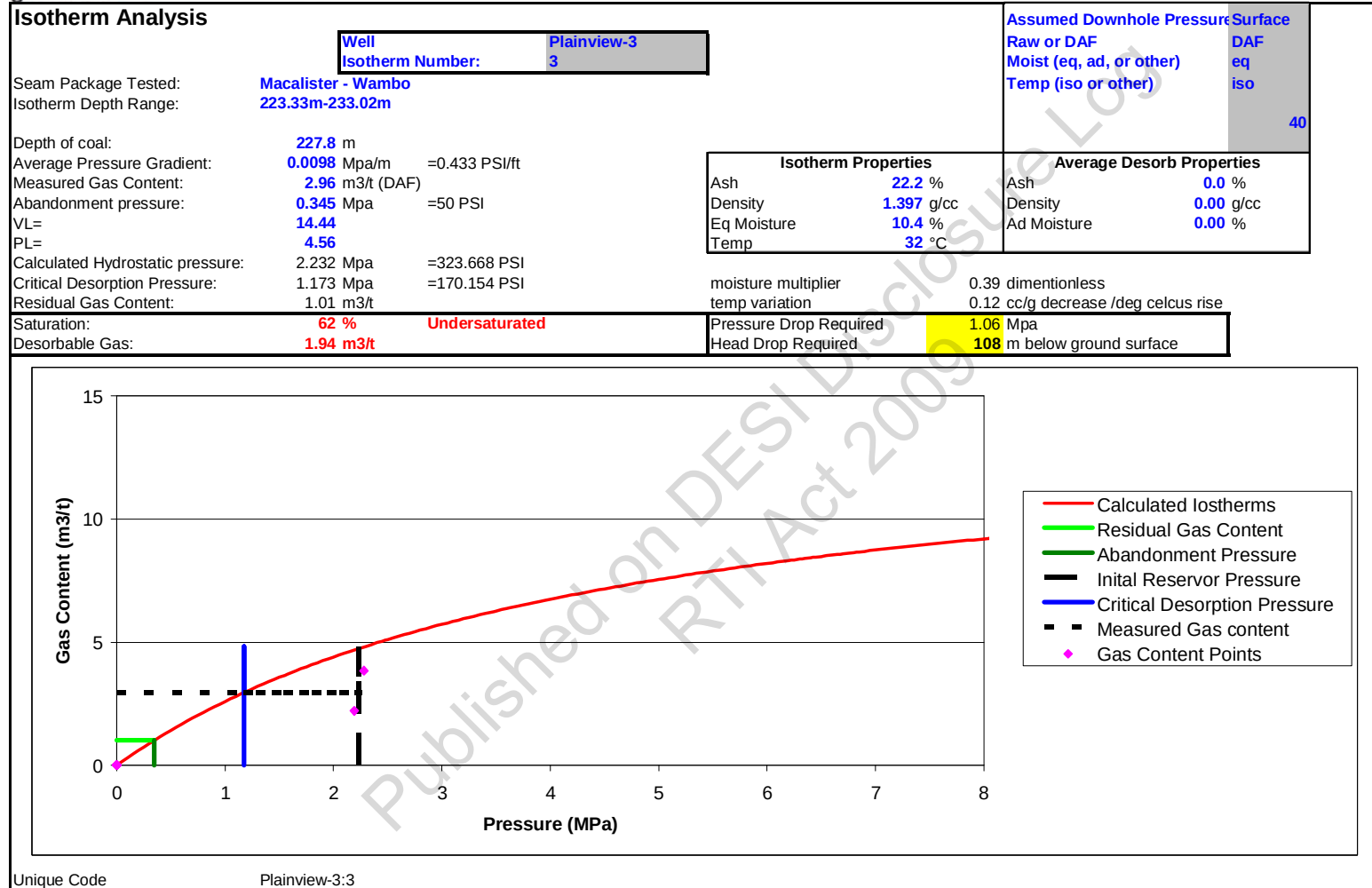


Figure 9: Isotherm 3 analysis

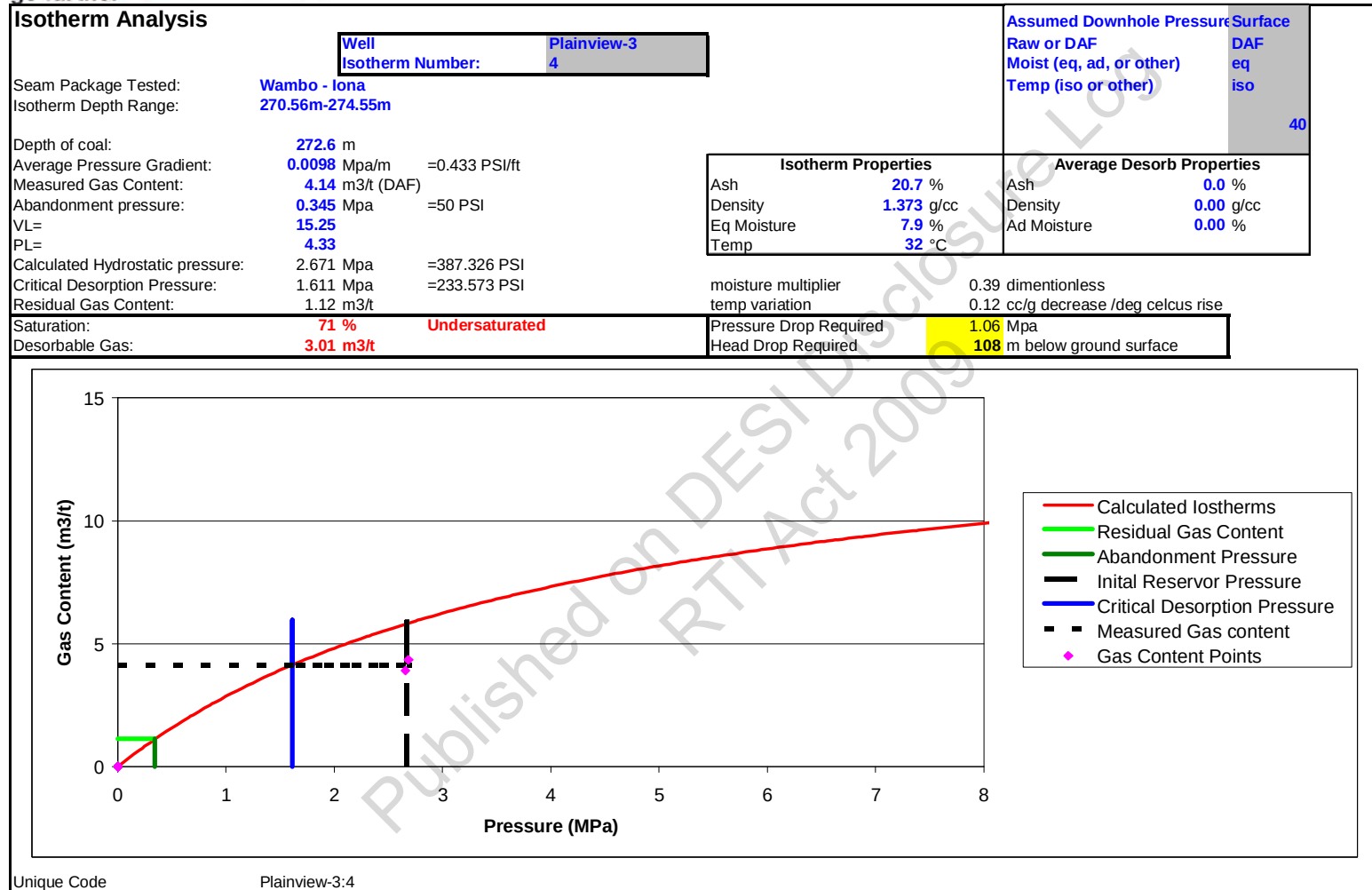


Figure 10: Isotherm 4 analysis

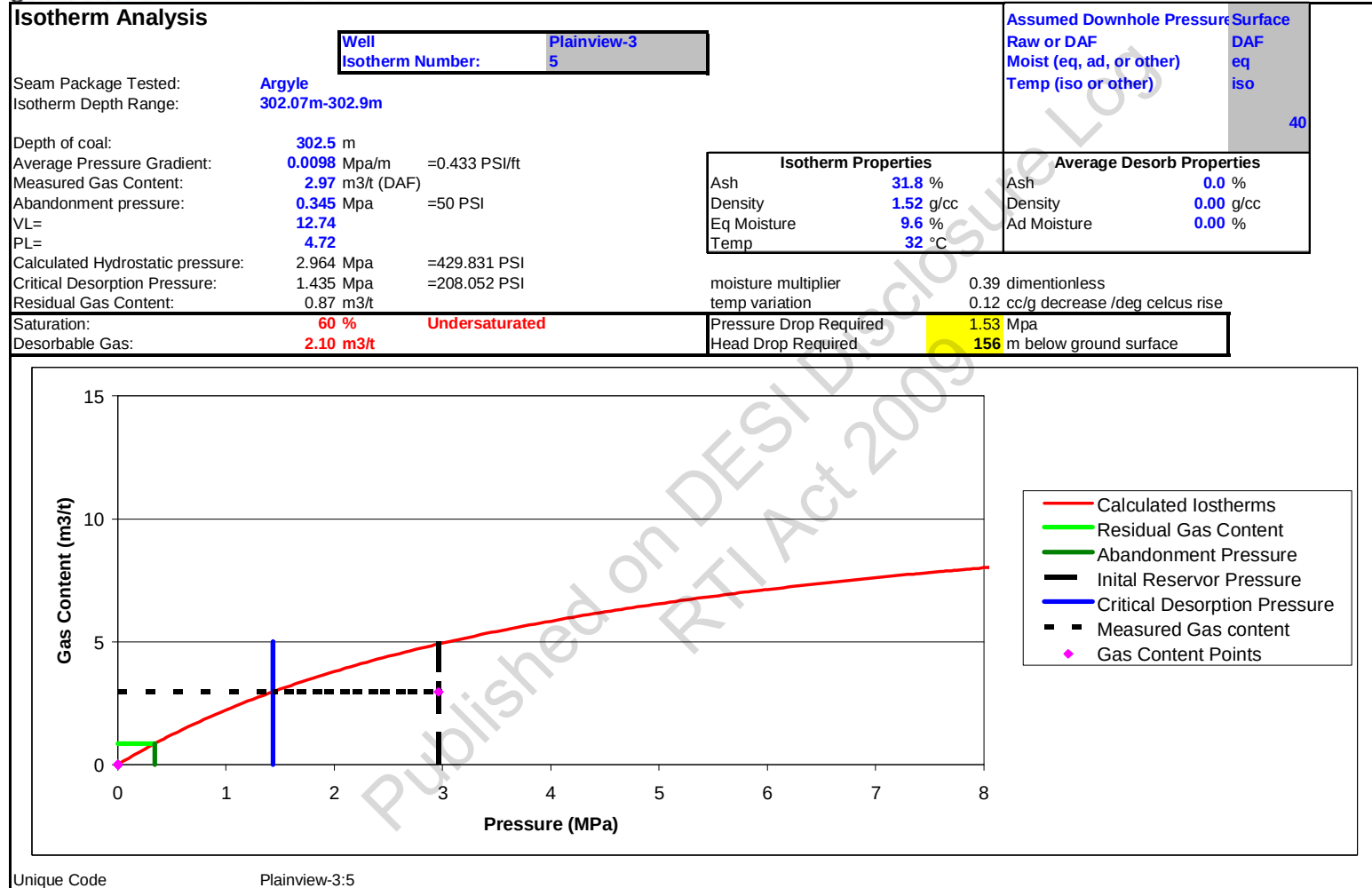


Figure 11: Isotherm 5 analysis

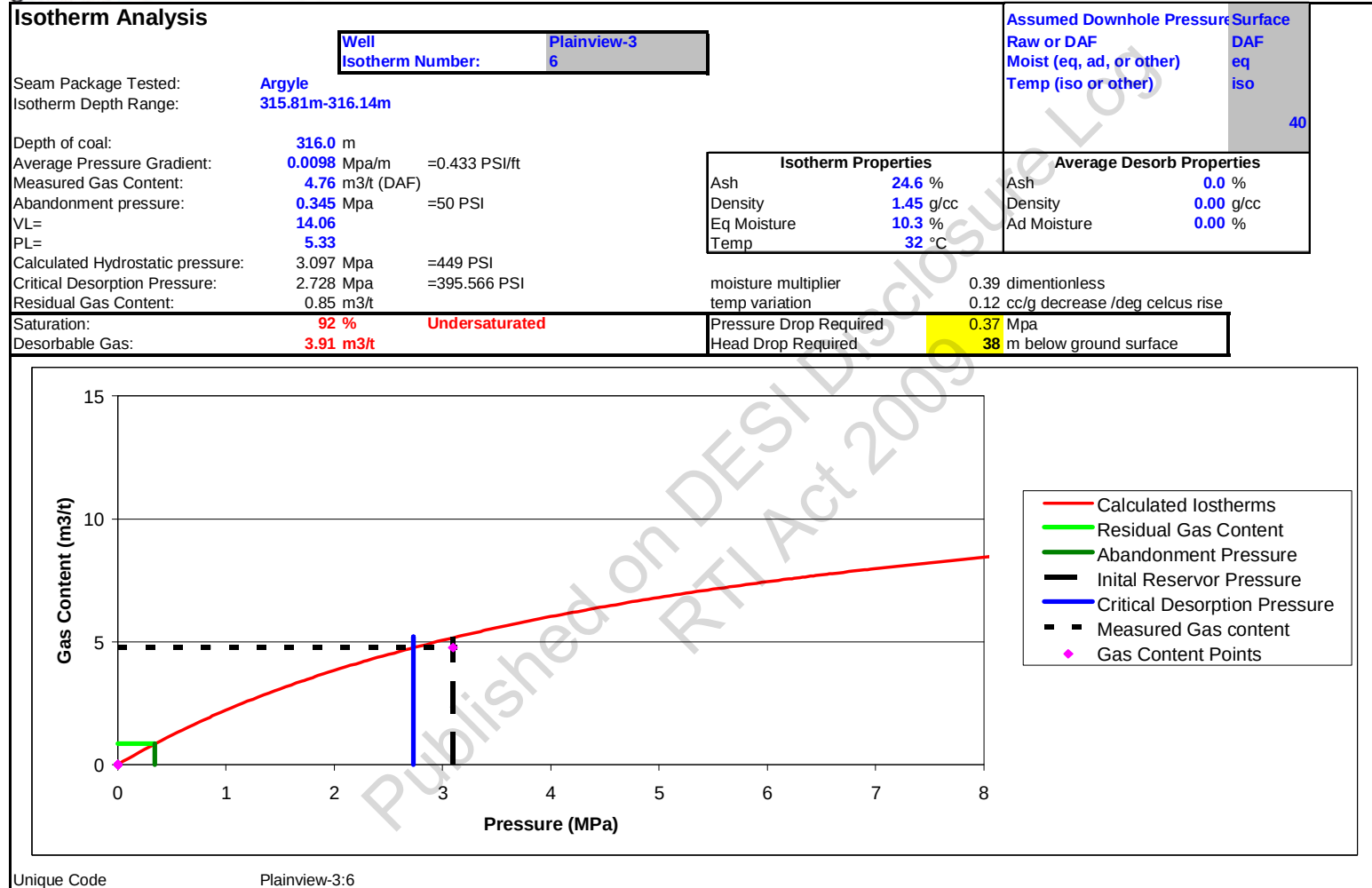


Figure 12: Isotherm 6 analysis

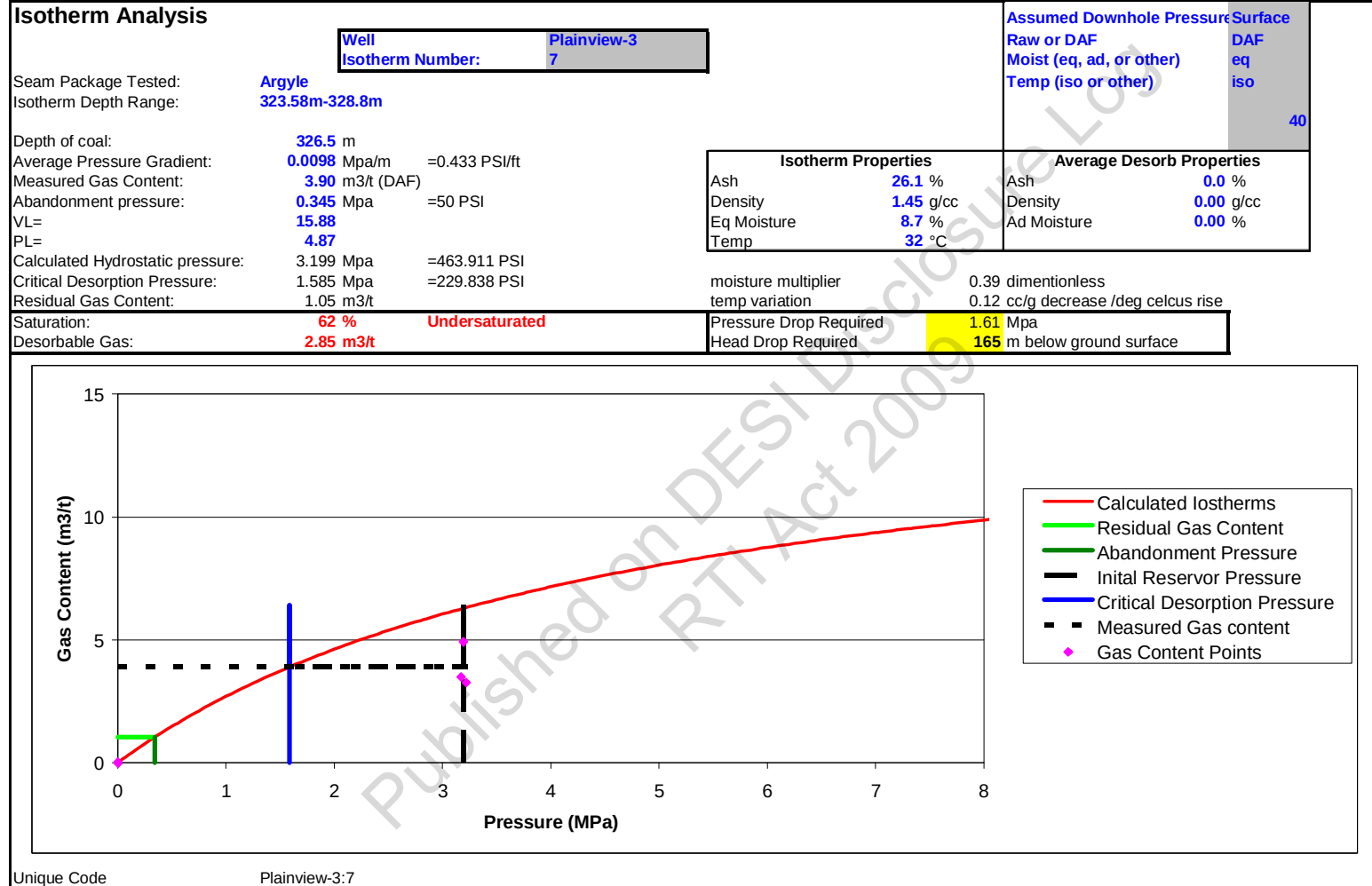


Figure 13: Isotherm 7 analysis

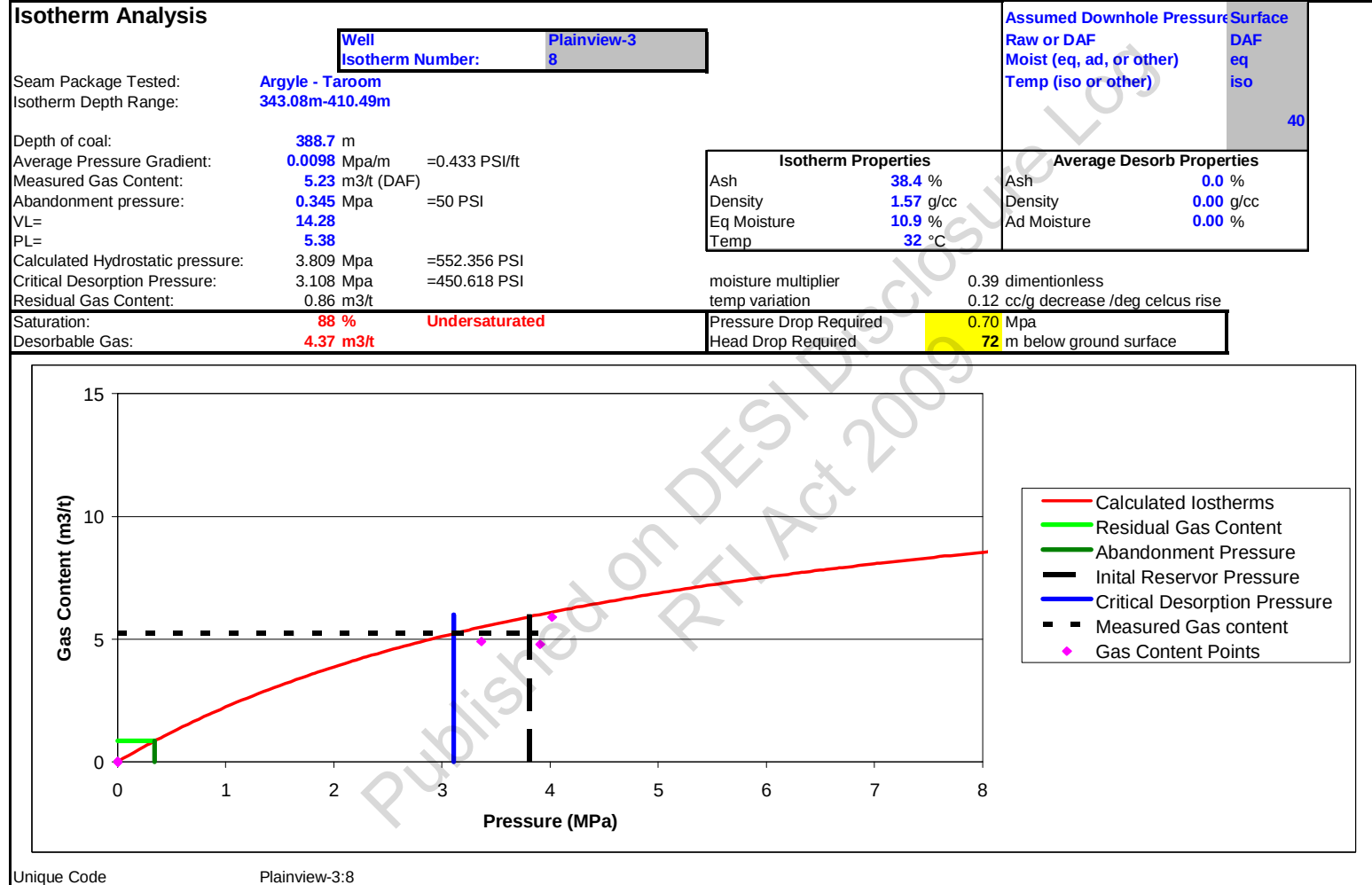


Figure 14: Isotherm 8 analysis

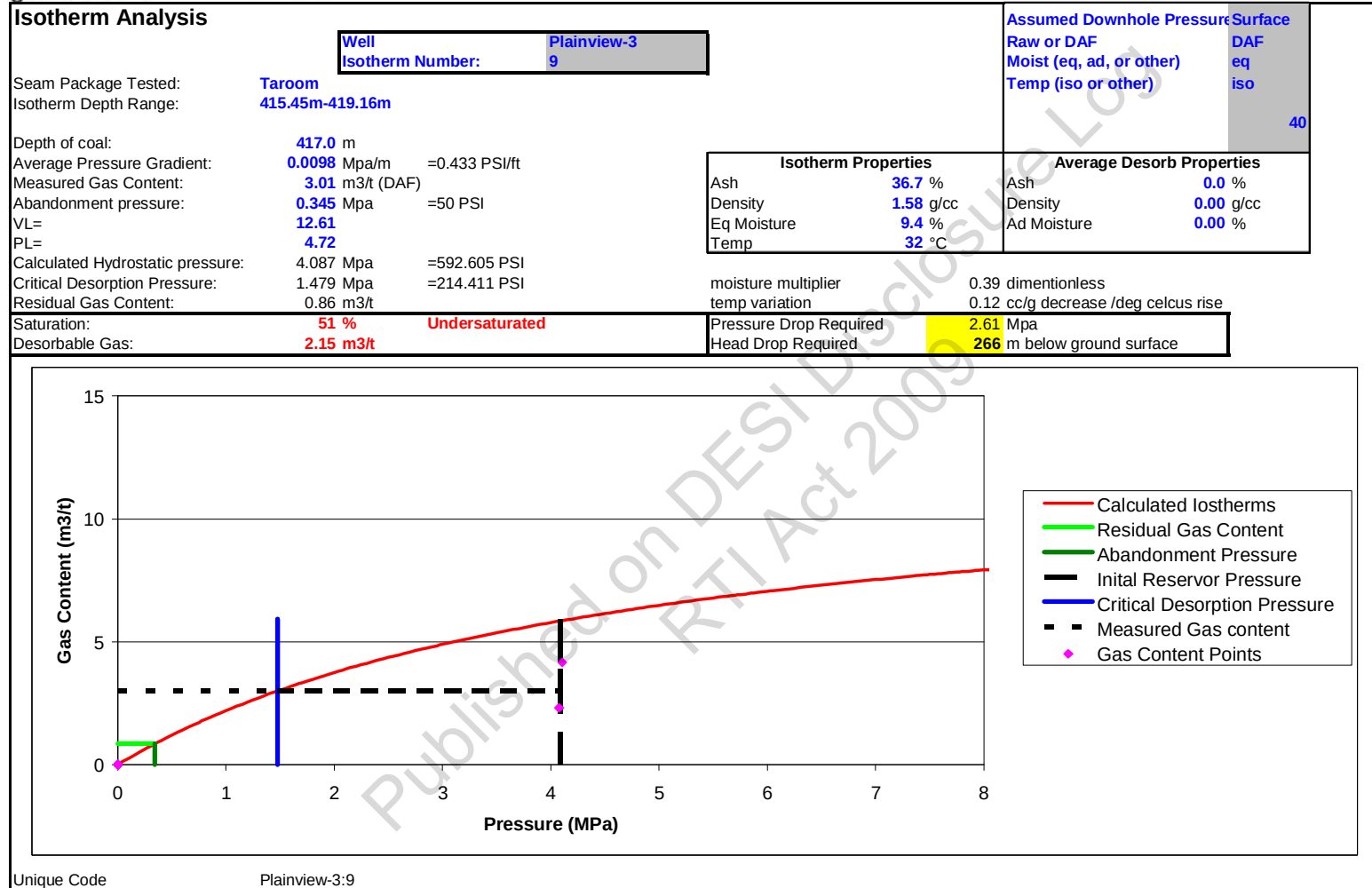
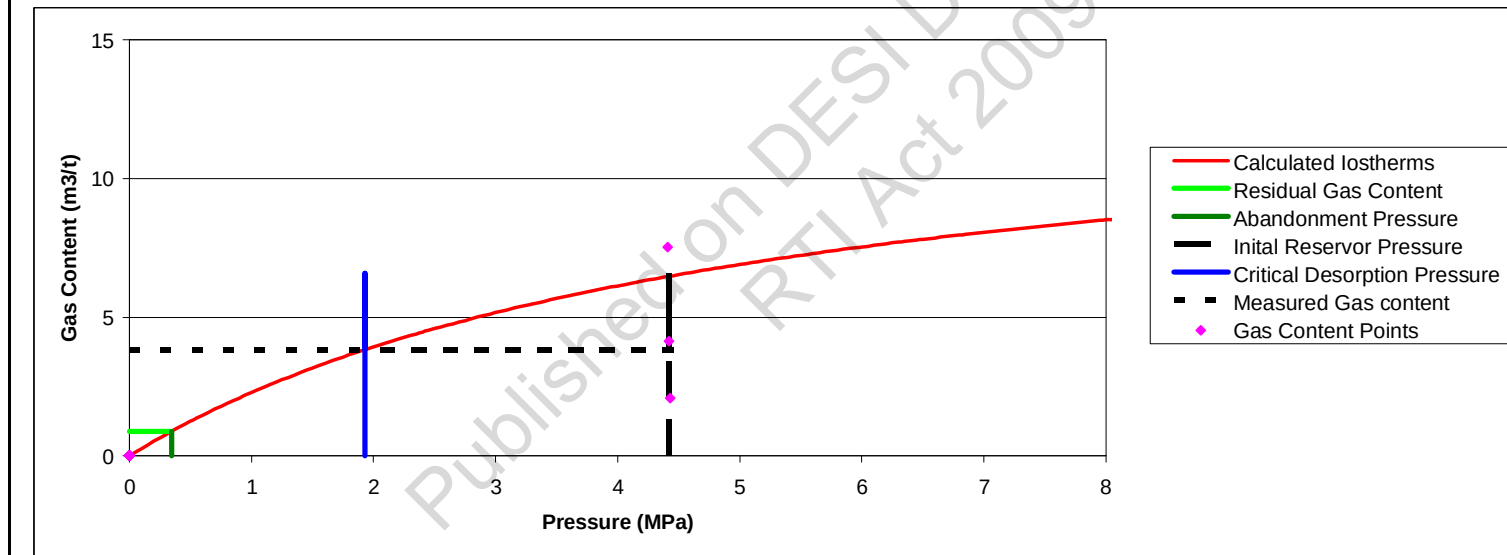


Figure 15: Isotherm 9 analysis

Isotherm Analysis

Seam Package Tested: Taroom		Well: Plainview-3	Assumed Downhole Pressure: Surface
Isotherm Depth Range: 449.8m-452.54m		Isotherm Number: 10	Raw or DAF: DAF
			Moist (eq, ad, or other): eq
			Temp (iso or other): iso
			40
Depth of coal:	451.3 m		
Average Pressure Gradient:	0.0098 Mpa/m	=0.433 PSI/ft	
Measured Gas Content:	3.83 m3/t (DAF)		
Abandonment pressure:	0.345 Mpa	=50 PSI	
VL=	13.92		
PL=	5.08		
Calculated Hydrostatic pressure:	4.422 Mpa	=641.235 PSI	
Critical Desorption Pressure:	1.927 Mpa	=279.478 PSI	
Residual Gas Content:	0.88 m3/t		
Saturation:	59 %	Undersaturated	
Desorbable Gas:	2.94 m3/t		
		moisture multiplier	0.39 dimensionless
		temp variation	0.12 cc/g decrease /deg celcius rise
		Pressure Drop Required	2.49 Mpa
		Head Drop Required	255 m below ground surface



Unique Code: Plainview-3:10

Figure 16: Isotherm 10 analysis

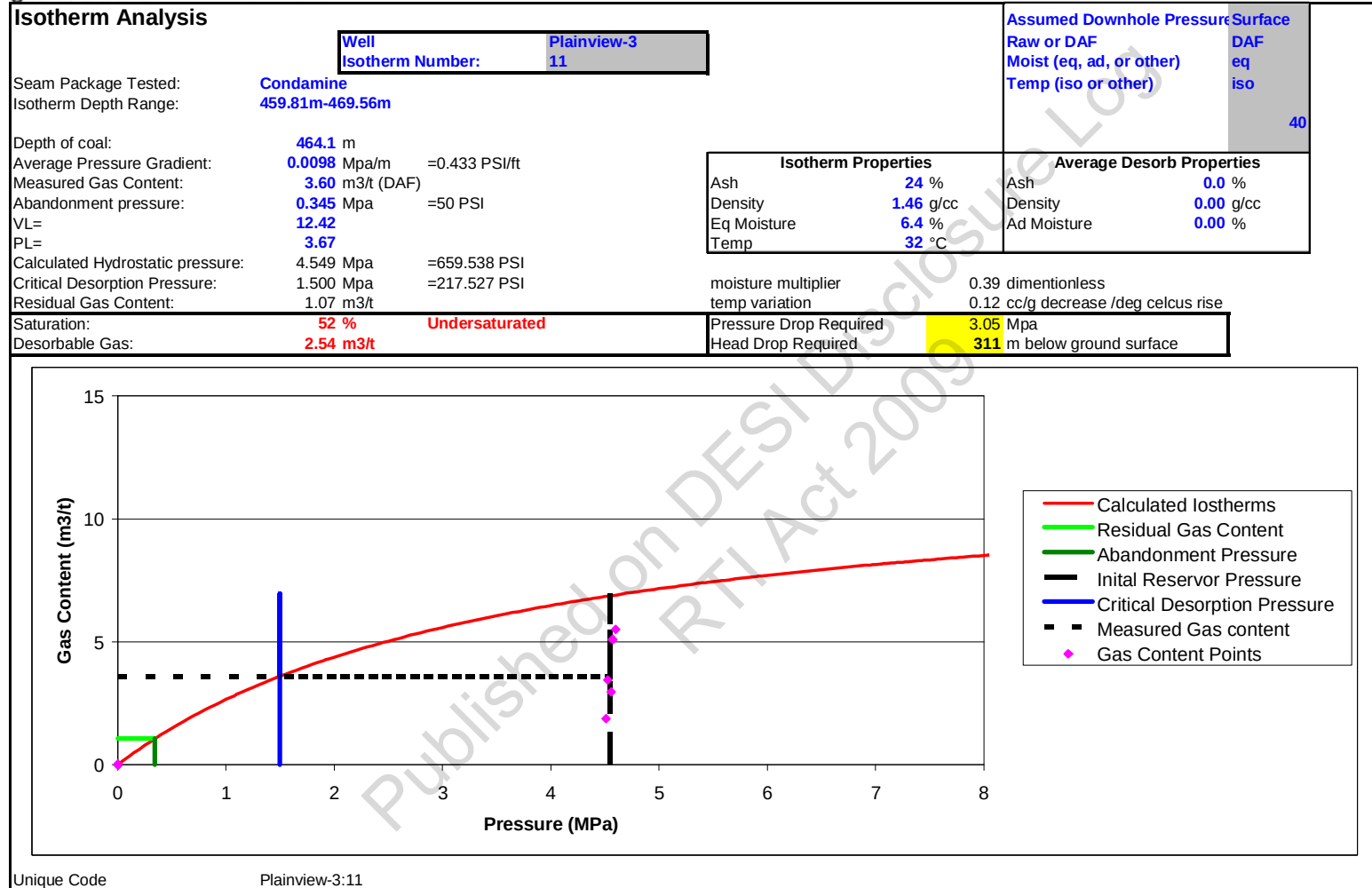
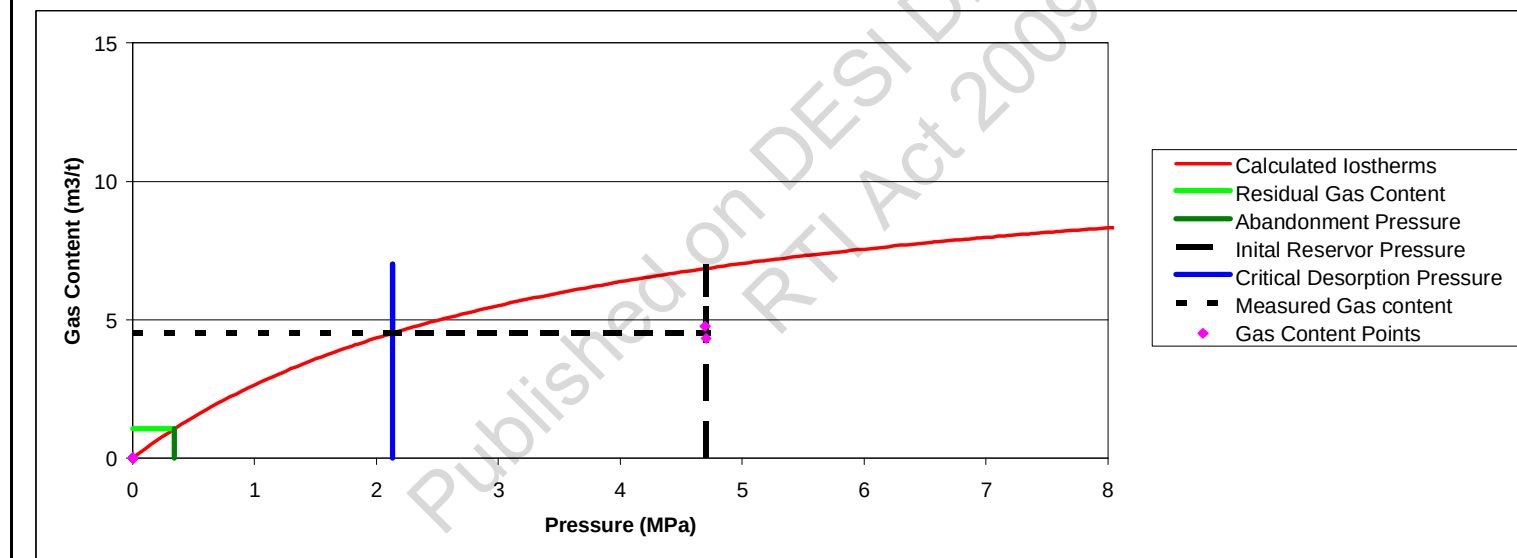


Figure 17: Isotherm 11 analysis

Isotherm Analysis

Seam Package Tested:		Well Isotherm Number:	Plainview-3 12	Raw or DAF Moist (eq, ad, or other) Temp (iso or other)	DAF eq iso																				
Isotherm Depth Range:		Condamine 478.94m-480.37m			40																				
Depth of coal:		479.7 m																							
Average Pressure Gradient:		0.0098 Mpa/m =0.433 PSI/ft																							
Measured Gas Content:		4.52 m3/t (DAF)																							
Abandonment pressure:		0.345 Mpa =50 PSI																							
VL=		12																							
PL=		3.53																							
Calculated Hydrostatic pressure:		4.701 Mpa =681.609 PSI																							
Critical Desorption Pressure:		2.134 Mpa =309.379 PSI																							
Residual Gas Content:		1.07 m3/t																							
Saturation:		66 % Undersaturated																							
Desorbable Gas:		3.45 m3/t																							
		moisture multiplier		0.39 dimentionless																					
		temp variation		0.12 cc/g decrease /deg celcius rise																					
		Pressure Drop Required		2.57 Mpa																					
		Head Drop Required		262 m below ground surface																					
		<table><tr><th colspan="2">Isotherm Properties</th><th colspan="2">Average Desorb Properties</th></tr><tr><td>Ash</td><td>24.5 %</td><td>Ash</td><td>0.0 %</td></tr><tr><td>Density</td><td>1.47 g/cc</td><td>Density</td><td>0.00 g/cc</td></tr><tr><td>Eq Moisture</td><td>7.6 %</td><td>Ad Moisture</td><td>0.00 %</td></tr><tr><td>Temp</td><td>32 °C</td><td></td><td></td></tr></table>				Isotherm Properties		Average Desorb Properties		Ash	24.5 %	Ash	0.0 %	Density	1.47 g/cc	Density	0.00 g/cc	Eq Moisture	7.6 %	Ad Moisture	0.00 %	Temp	32 °C		
Isotherm Properties		Average Desorb Properties																							
Ash	24.5 %	Ash	0.0 %																						
Density	1.47 g/cc	Density	0.00 g/cc																						
Eq Moisture	7.6 %	Ad Moisture	0.00 %																						
Temp	32 °C																								



Unique Code Plainview-3:12

Figure 18: Isotherm 12 analysis

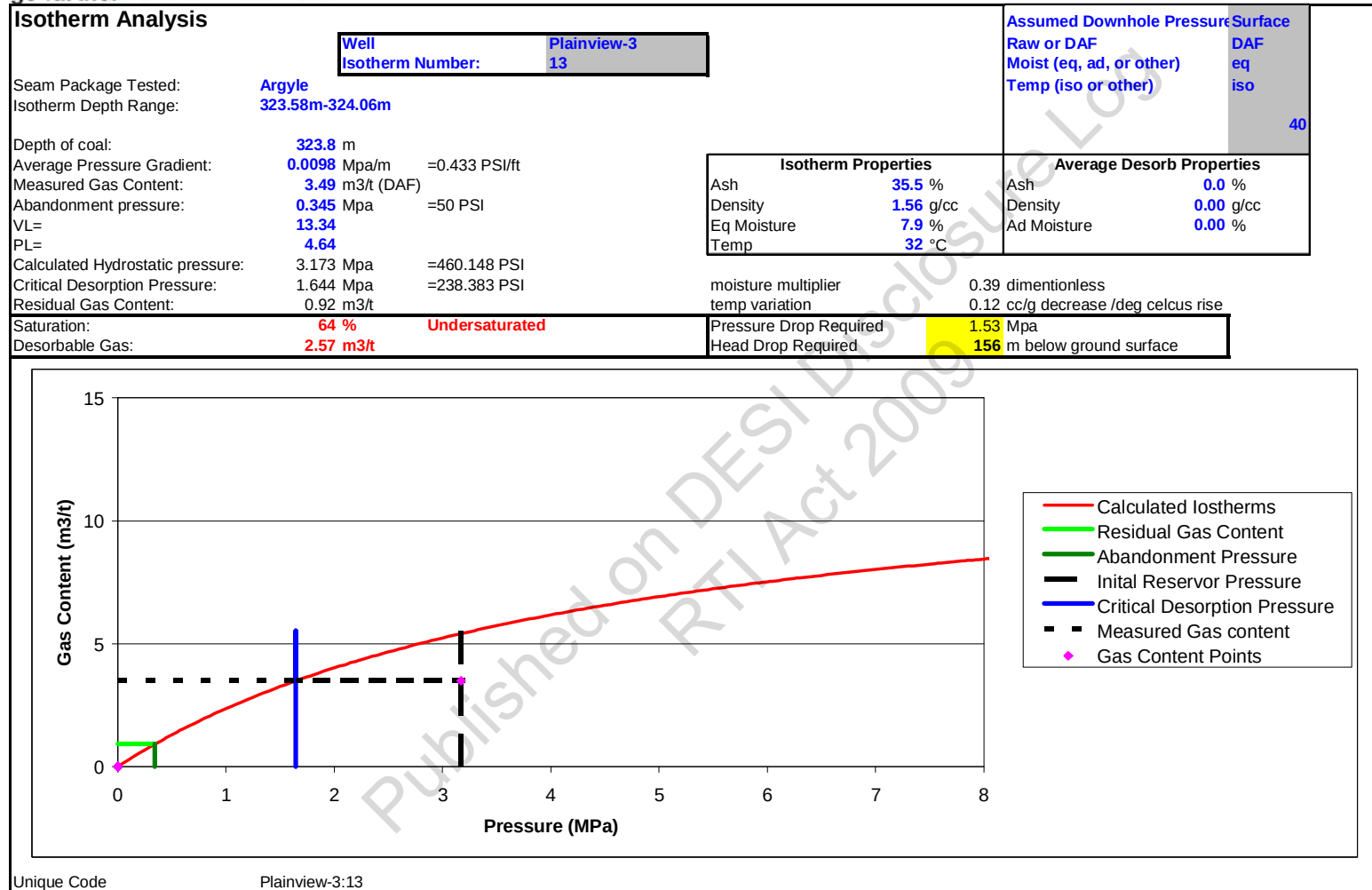
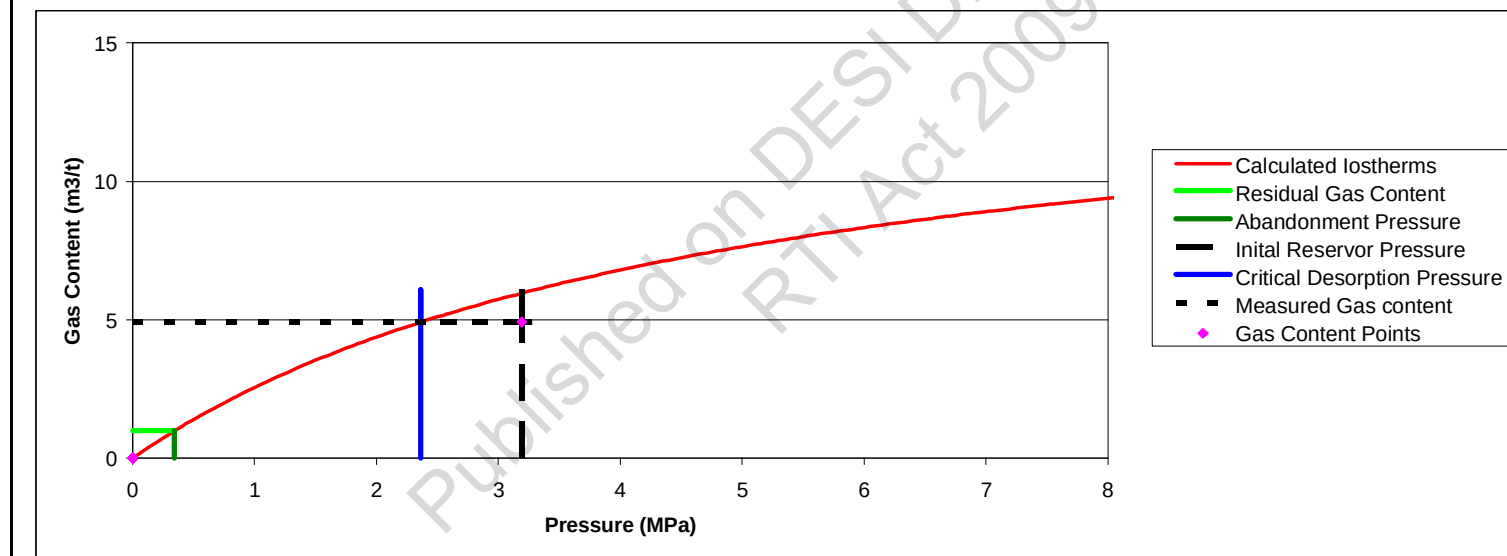


Figure 19: Isotherm 13 analysis

Isotherm Analysis

Seam Package Tested: Argyle		Well: Plainview-3	Assumed Downhole Pressure: Surface
Isotherm Depth Range: 325.49m-326.27m		Isotherm Number: 14	Raw or DAF: DAF
			Moist (eq, ad, or other): eq
			Temp (iso or other): iso
			40
Depth of coal:	325.9 m		
Average Pressure Gradient:	0.0098 Mpa/m	=0.433 PSI/ft	
Measured Gas Content:	4.92 m3/t (DAF)		
Abandonment pressure:	0.345 Mpa	=50 PSI	
VL=	15.21		
PL=	4.95		
Calculated Hydrostatic pressure:	3.194 Mpa	=463.075 PSI	
Critical Desorption Pressure:	2.367 Mpa	=343.181 PSI	
Residual Gas Content:	0.99 m3/t		
Saturation:	82 %	Undersaturated	
Desorbable Gas:	3.93 m3/t		
		moisture multiplier	0.39 dimensionless
		temp variation	0.12 cc/g decrease /deg celcius rise
		Pressure Drop Required	0.83 Mpa
		Head Drop Required	84 m below ground surface



Unique Code Plainview-3:14

Figure 20: Isotherm 14 analysis

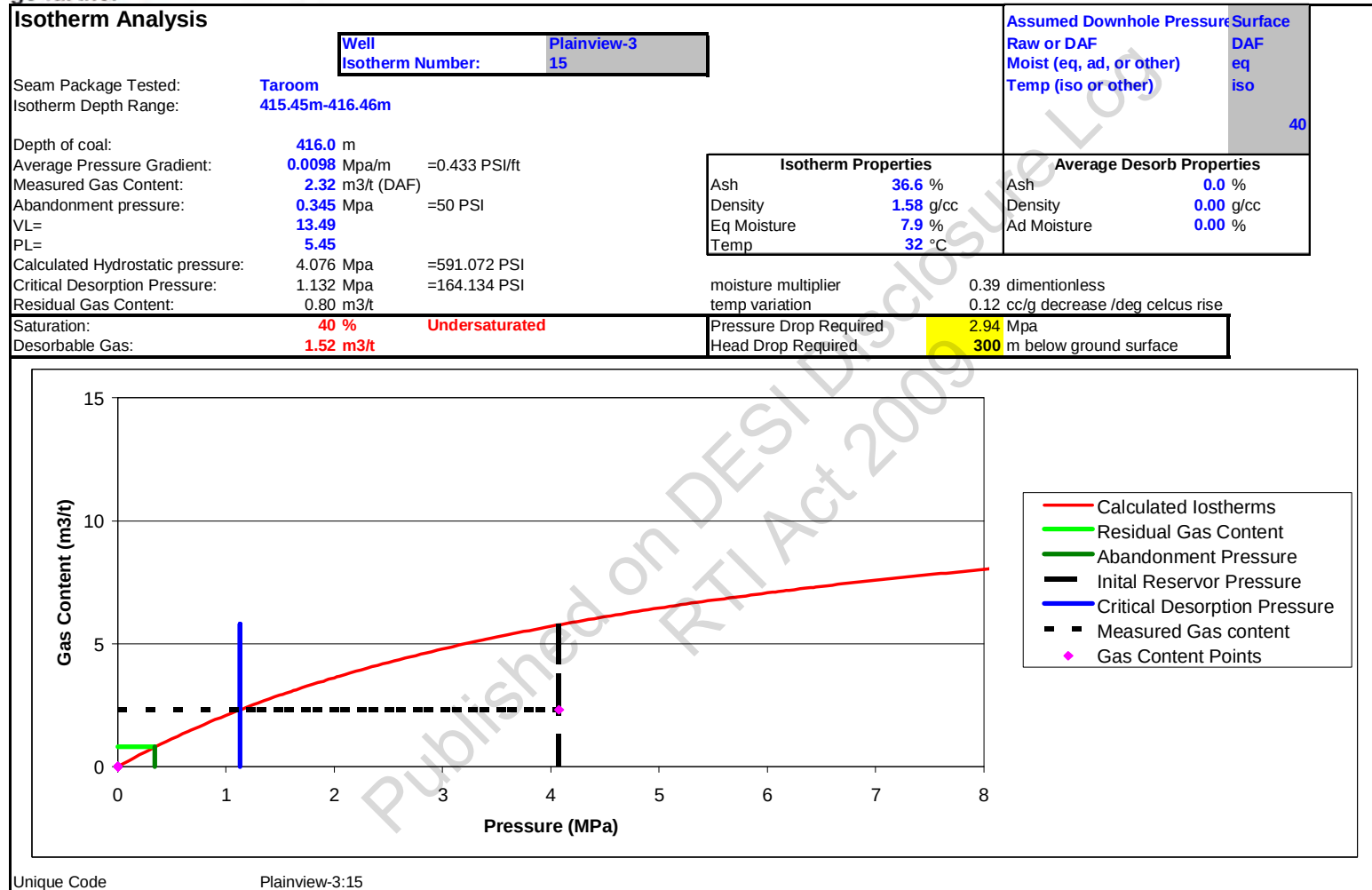


Figure 21: Isotherm 15 analysis

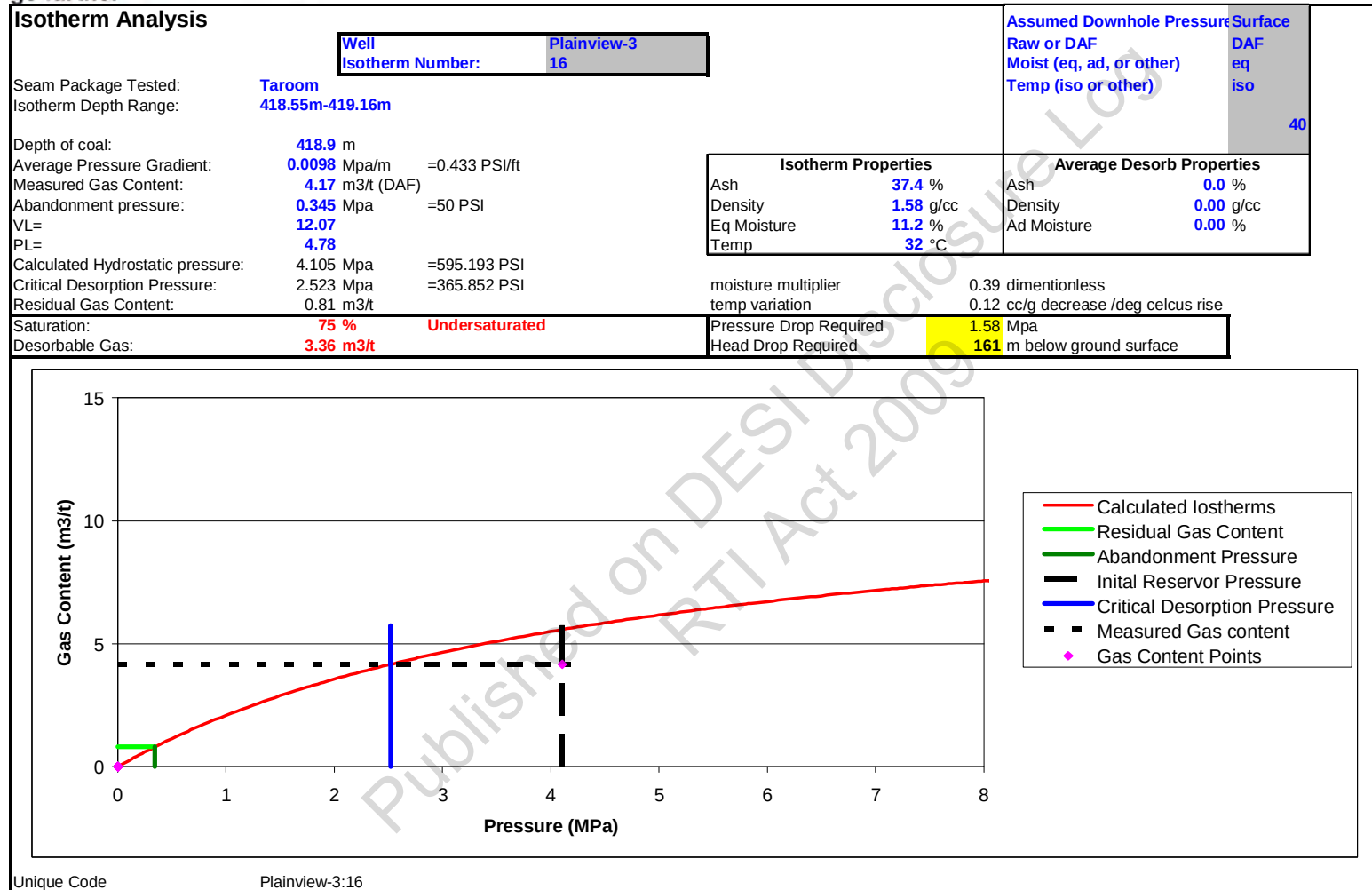


Figure 22: Isotherm 16 analysis

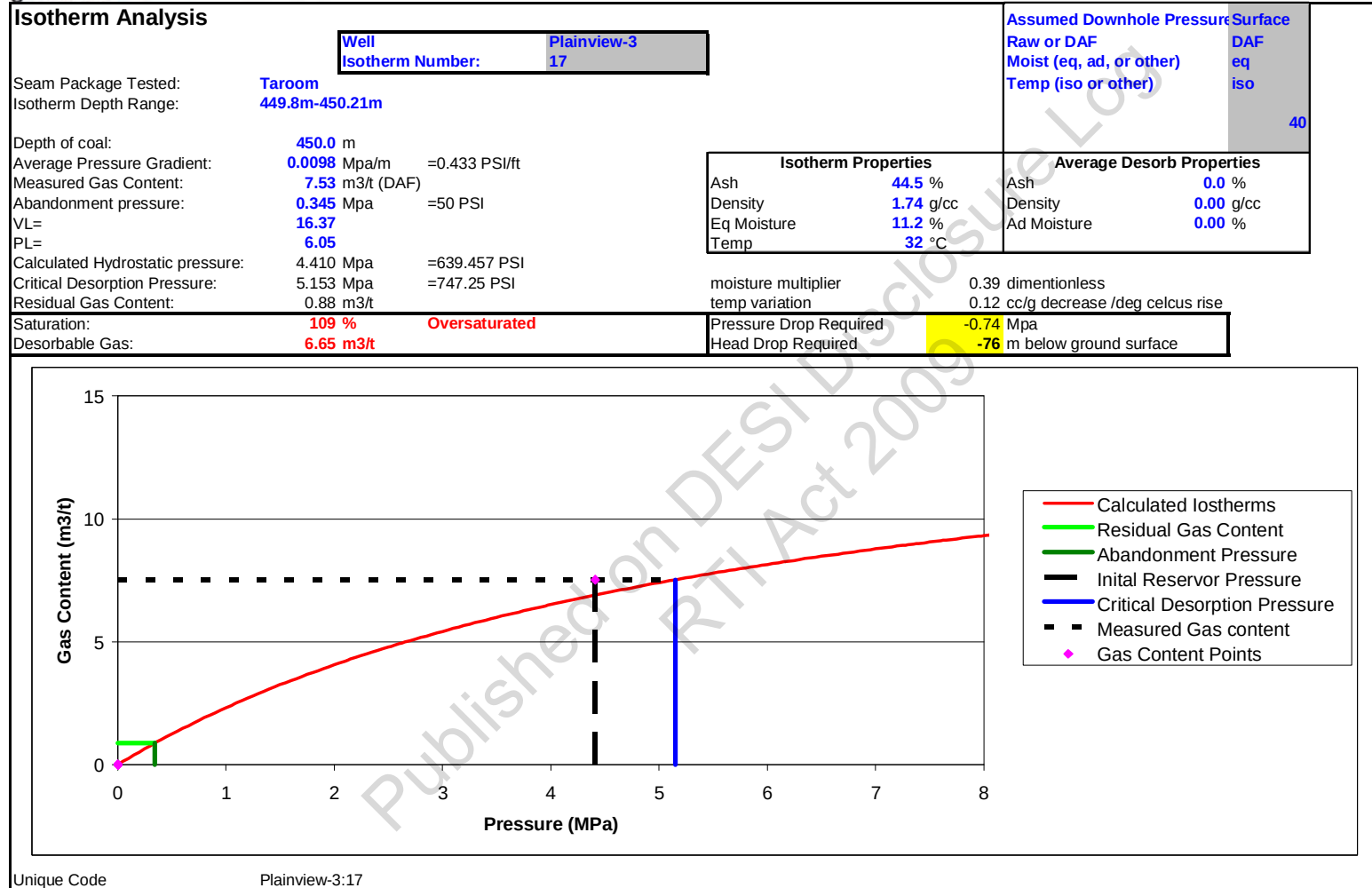
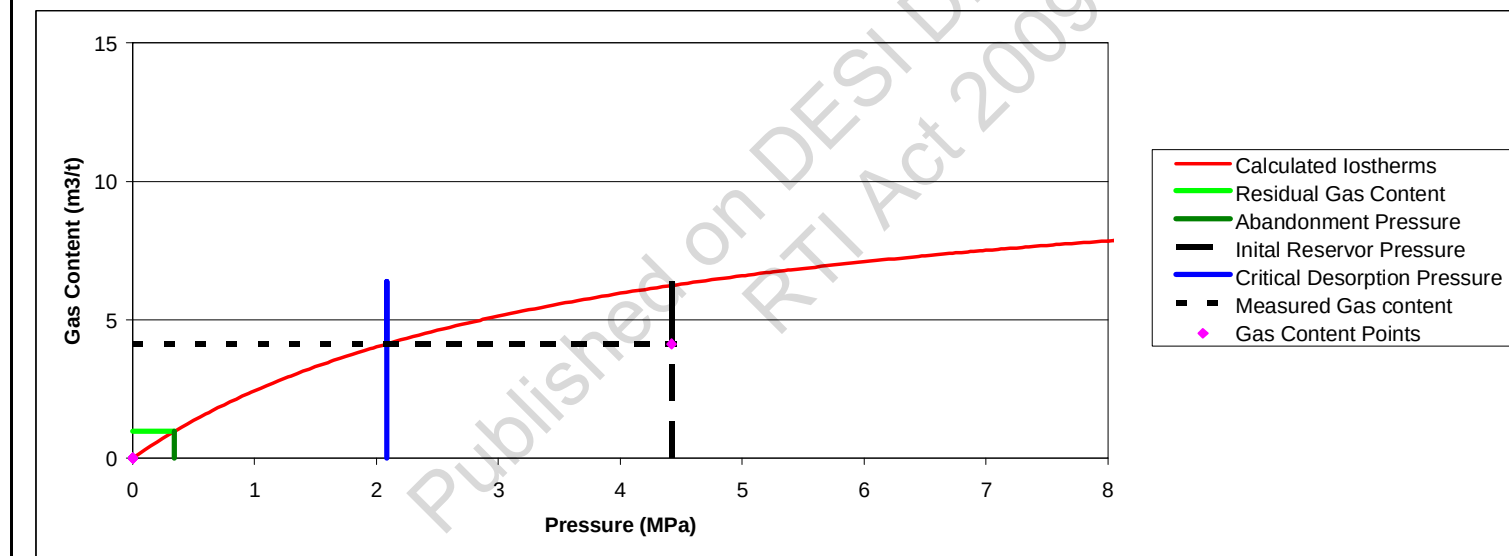


Figure 23: Isotherm 17 analysis

Isotherm Analysis

Seam Package Tested: Taroom		Well: Plainview-3	Assumed Downhole Pressure: Surface
Isotherm Depth Range: 450.47m-451.49m		Isotherm Number: 18	Raw or DAF: DAF
			Moist (eq, ad, or other): eq
			Temp (iso or other): iso
			40
Depth of coal:	451.0 m		
Average Pressure Gradient:	0.0098 Mpa/m	=0.433 PSI/ft	
Measured Gas Content:	4.13 m3/t (DAF)		
Abandonment pressure:	0.345 Mpa	=50 PSI	
VL=	11.51		
PL=	3.73		
Calculated Hydrostatic pressure:	4.420 Mpa	=640.843 PSI	
Critical Desorption Pressure:	2.087 Mpa	=302.671 PSI	
Residual Gas Content:	0.97 m3/t		
Saturation:	66 %	Undersaturated	
Desorbable Gas:	3.16 m3/t		
		moisture multiplier	0.39 dimensionless
		temp variation	0.12 cc/g decrease /deg celcius rise
		Pressure Drop Required	2.33 Mpa
		Head Drop Required	238 m below ground surface



Unique Code Plainview-3:18

Figure 24: Isotherm 18 analysis

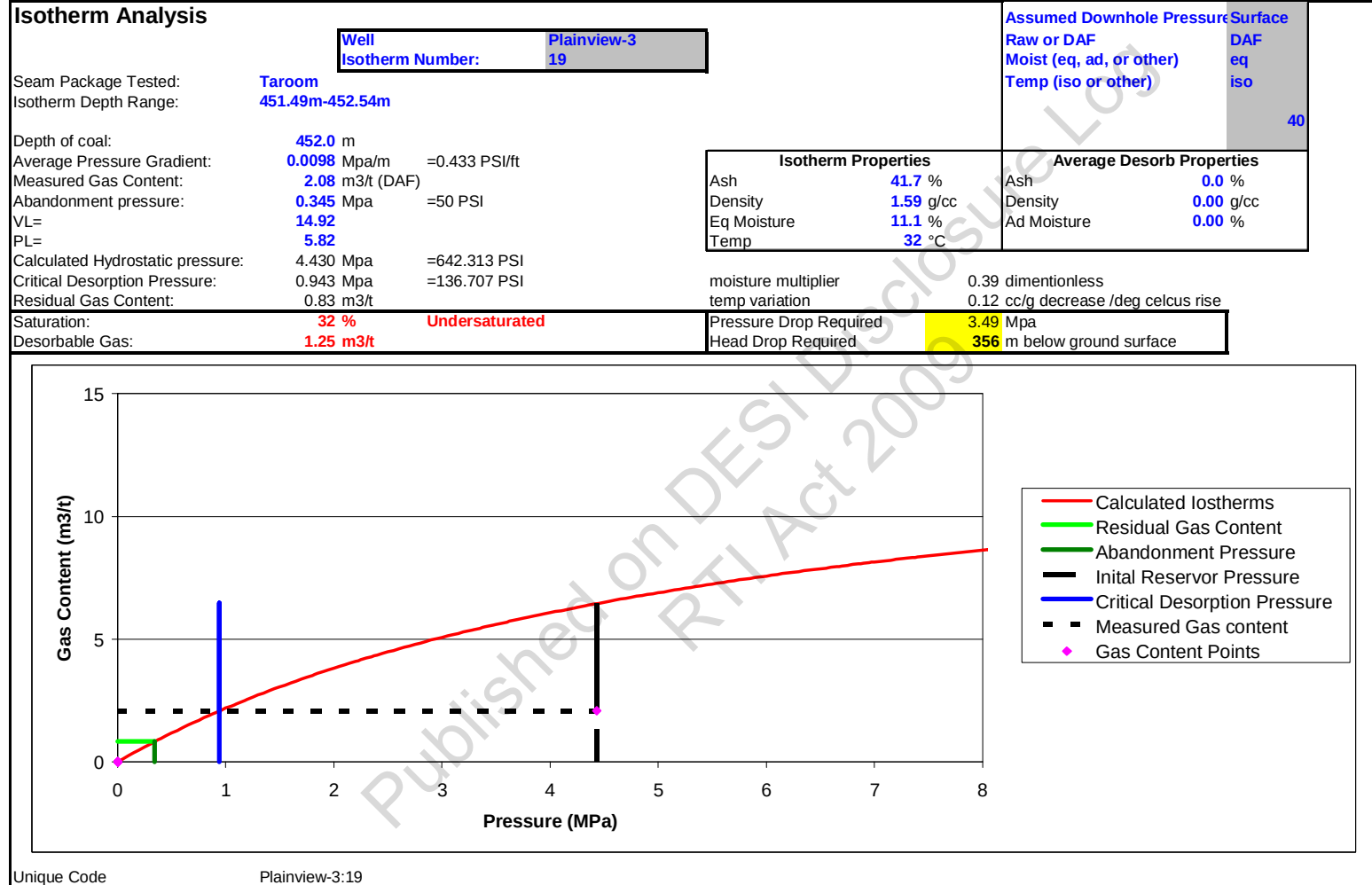


Figure 25: Isotherm 19 analysis

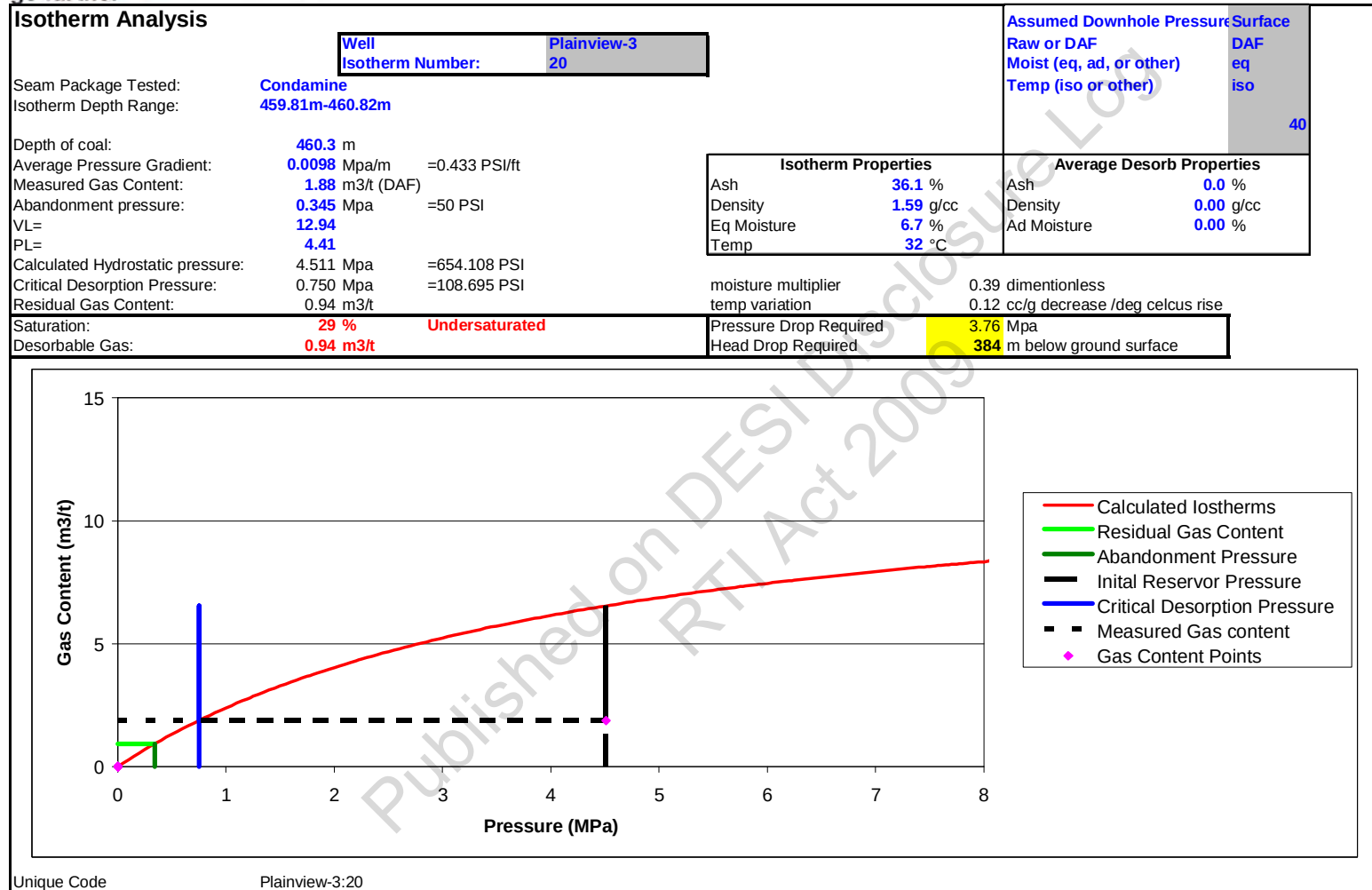
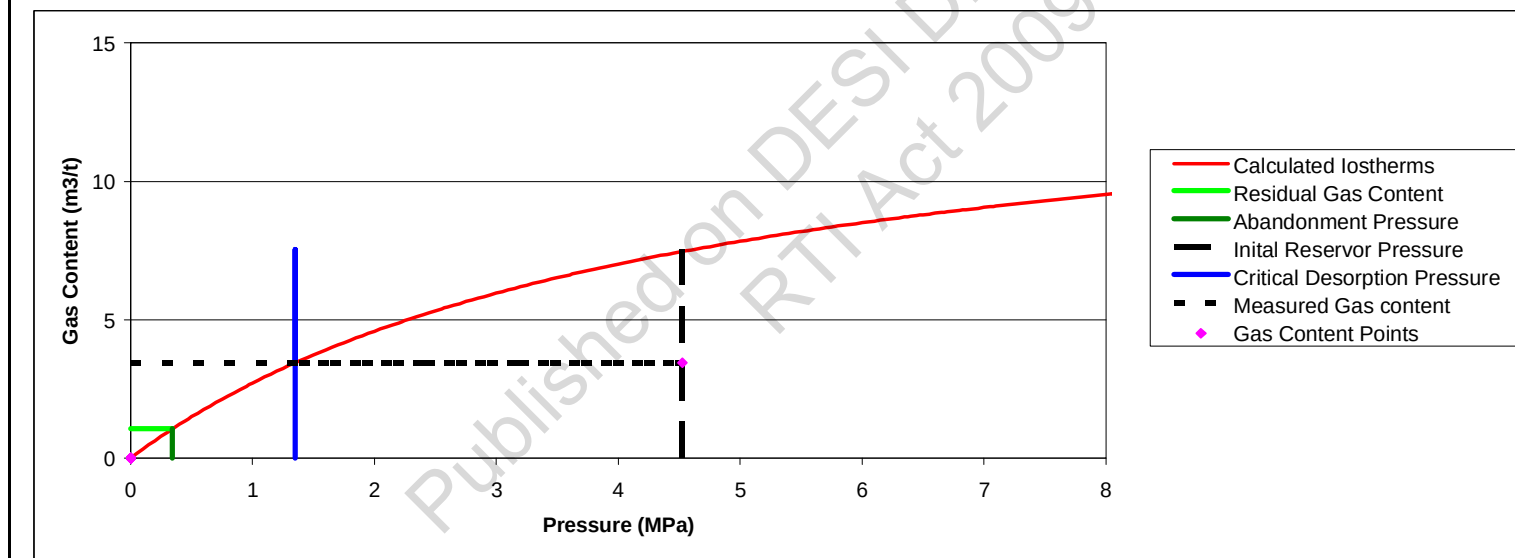


Figure 26: Isotherm 20 analysis

Isotherm Analysis

Well Isotherm Number: Plainview-3 21		Assumed Downhole Pressure Surface Raw or DAF Moist (eq, ad, or other) Temp (iso or other)	DAF eq iso 40																				
Seam Package Tested:	Condamine 461.33m-462.35m																						
Depth of coal:	461.8 m																						
Average Pressure Gradient:	0.0098 Mpa/m =0.433 PSI/ft																						
Measured Gas Content:	3.45 m3/t (DAF)																						
Abandonment pressure:	0.345 Mpa =50 PSI																						
VL=	14.83																						
PL=	4.46																						
Calculated Hydrostatic pressure:	4.526 Mpa =656.275 PSI																						
Critical Desorption Pressure:	1.352 Mpa =196.056 PSI																						
Residual Gas Content:	1.06 m3/t																						
Saturation:	46 % Undersaturated																						
Desorbable Gas:	2.39 m3/t																						
		moisture multiplier	0.39 dimensionless																				
		temp variation	0.12 cc/g decrease /deg celcius rise																				
		Pressure Drop Required	3.17 Mpa																				
		Head Drop Required	324 m below ground surface																				
		<table> <thead> <tr> <th colspan="2">Isotherm Properties</th><th colspan="2">Average Desorb Properties</th></tr> </thead> <tbody> <tr> <td>Ash</td><td>21.5 %</td><td>Ash</td><td>0.0 %</td></tr> <tr> <td>Density</td><td>1.42 g/cc</td><td>Density</td><td>0.00 g/cc</td></tr> <tr> <td>Eq Moisture</td><td>6.8 %</td><td>Ad Moisture</td><td>0.00 %</td></tr> <tr> <td>Temp</td><td>32 °C</td><td colspan="2"></td></tr> </tbody> </table>		Isotherm Properties		Average Desorb Properties		Ash	21.5 %	Ash	0.0 %	Density	1.42 g/cc	Density	0.00 g/cc	Eq Moisture	6.8 %	Ad Moisture	0.00 %	Temp	32 °C		
Isotherm Properties		Average Desorb Properties																					
Ash	21.5 %	Ash	0.0 %																				
Density	1.42 g/cc	Density	0.00 g/cc																				
Eq Moisture	6.8 %	Ad Moisture	0.00 %																				
Temp	32 °C																						



Unique Code Plainview-3:21

Figure 27: Isotherm 21 analysis

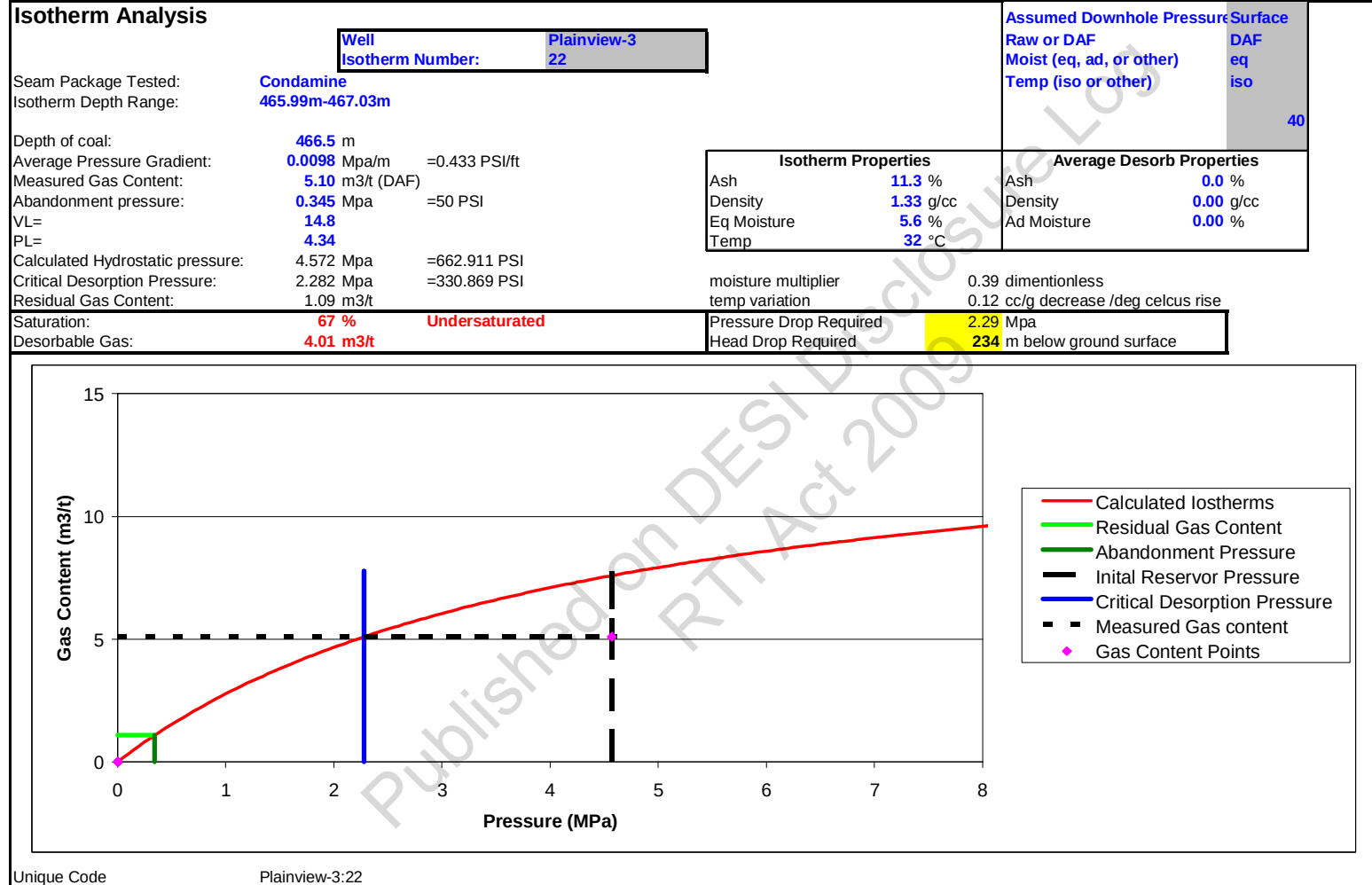


Figure 28: Isotherm 22 analysis

Vitrinite Reflectance Analysis:

Duplicates of the desorption samples were analysed for Vitrinite Reflectance. Results are tabulated below:

Sample Number	Depth From	Depth To	Ro Max		
			Telovitrinite	Detrovitrinite	Total Vitrinite
1	172.5	173.5	0.53	0.44	0.5
2	188.18	190.45	0.5	0.44	0.47
3	223.33	233.02	0.48	0.42	0.46
4	270.56	274.55	0.48	0.43	0.46
5	302.07	302.9	0.5	0.43	0.47
6	315.81	316.14	0.51	0.44	0.48
7	323.58	328.8	0.52	0.45	0.5
8	343.08	410.49	0.53	0.45	0.49
9	415.45	419.16	0.54	0.47	0.51
10	449.8	452.54	0.55	0.45	0.51
11	459.81	469.56	0.54	0.47	0.5
12	478.94	480.37	0.59	0.5	0.55

Coal Maceral Analysis:

Duplicates of the desorption samples were analysed for Maceral Content. Results are tabulated below:

Sample Number	Depth From	Depth to	Maceral Analysis as analysed							
			Telovitrinite	Detrovitrinite	Gelovitrinite	Liptinite	Teloinertnite	Detroinertnite	Geloinertinite	Minerals
PV3ED565	172.5	173.5	34.7	23.7	2.8	11.5	6.7	0.2	0.0	20.5
PV3ED244	188.18	189.17	16.0	22.8	2.4	24.0	5.6	3.4	0.0	25.8
PV3ED216	190.09	190.45	20.2	23.8	0.8	23.6	0.4	0.2	0.0	31.1
PV3ED033	223.33	223.81	11.1	18.3	1.8	28.3	0.0	0.0	0.0	40.6
PV3ED255	232.62	233.02	20.7	32.4	2.7	21.5	1.2	0.6	0.0	20.9
PV3ED100	270.56	271.59	7.0	29.1	6.2	29.3	0.0	0.0	0.0	28.4
PV3ED622	273.59	274.55	23.0	30.0	1.8	23.0	0.0	0.0	0.0	22.2
PV3ED158	302.07	302.9	22.9	21.3	4.7	13.5	0.0	0.0	0.0	37.7
PV3ED308	315.81	316.14	31.7	29.7	5.4	11.5	0.0	0.0	0.0	21.7
PV3ED070	323.58	324.06	9.8	20.1	1.4	18.3	0.0	0.0	0.0	50.4
PV3ED580	325.49	326.27	12.1	26.6	2.0	19.5	0.0	0.0	0.0	39.9
PV3ED236	327.87	328.8	16.2	23.7	1.2	14.0	0.0	0.0	0.0	45.0
PV3ED276	343.08	343.42	7.9	20.5	0.8	10.9	0.0	0.0	0.0	60.0
PV3ED695	398.63	399.11	8.6	17.2	0.2	5.6	0.0	0.0	0.0	68.4
PV3ED581	410.01	410.49	13.5	24.1	1.0	20.4	0.0	0.0	0.0	41.0
PV3ED666	415.45	416.46	12.2	23.0	1.6	12.0	0.0	0.0	0.0	51.2
PV3ED682	418.55	419.16	18.0	25.1	1.0	7.5	0.0	0.0	0.0	48.4
PV3ED227	449.8	450.21	8.0	21.0	0.6	6.8	0.0	0.0	0.0	63.6
PV3ED549	450.47	451.49	13.9	35.3	1.4	17.3	0.0	0.0	0.0	32.1
PV3ED696	451.49	452.54	7.9	15.7	0.4	14.3	0.0	0.0	0.0	61.7
PV3ED011	459.81	460.82	19.8	28.3	1.0	13.9	0.0	0.0	0.0	37.1
PV3ED036	461.33	462.35	20.9	31.6	0.4	15.8	0.0	0.0	0.0	31.4
PV3ED102	464.76	465.72	11.7	26.6	2.8	18.5	0.4	0.0	0.0	40.1
PV3ED681	465.99	467.03	22.1	38.1	3.2	19.1	0.0	0.0	0.0	17.6
PV3ED687	469.05	469.56	19.8	43.3	1.8	19.2	0.0	0.0	0.0	16.0
PV3ED683	478.94	479.49	13.3	21.3	4.1	31.5	0.0	0.0	0.0	29.7
PV3ED088	479.69	480.37	16.9	36.1	1.0	18.5	0.0	0.0	0.0	27.5

4. d. HYDROCARBON INDICATIONS

Continuous mud/gas monitoring was undertaken using an air powered agitator to release gas from the mud where it was recorded by a Vrae PGM7800 model gas detector.

4. e. PERMEABILITY DATA

Flow tests:

None Conducted.

Drillstem and Injection Falloff Tests:

DST ID	From	To	Reservoir Pressure	Permeability	Skin Factor	Analysis Type
DST-1	312.5	338.4	473.9	81.38	15.35	Build Up
DST-2	398	423.9	584.16	184.9	30.04	Build Up
DST-3	448	473.9	647	9.007	0.18	Build Up
DST-4	161	564.2	221.2	3.61	-3.44	Build Up

5. CONTRIBUTIONS TO GEOLOGICAL KNOWLEDGE

The primary objective of Plainview-3 was to test gas contents and coal properties in the southernmost part of PLA 238, west of the Horrane fault. It was located in an area free of intensive cultivation and a likely early site for development drilling when a PL was granted.

A total of 27.17m of coal was logged from the core samples across both the Juandah and Taroom seams. The coal thicknesses in the Juandahs were 13.36m and in the Tarooms 13.81; both of which are below expectations (especially the Juandah seams) but still economically viable.

It does not appear as though there are any major structures nearby (faults or folds) as the actual and predicted formation tops were roughly the same (between 20m to 30m deeper than predicted in general); which is within acceptable variation.

Selected coal cores were taken for Desorption and later Langmuir Isotherm analysis. A Weighted average gas content of $3.67\text{m}^3/\text{t}$ on a Dry Ash Free (DAF) basis was measured. The average gas content for the Juandahs was $3.41\text{m}^3/\text{t}$ and $4.35\text{m}^3/\text{t}$ across the Tarooms. Gas contents show a linear increase with depth, becoming defuse deeper than 450m. An average saturation of 63.82% was calculated from the Langmuir Isotherms. The average saturation for the Juandahs was 68.29% and 61.73% for the Tarooms. Graphic representations of the isotherms are shown in Figure 7, Figure 8, Figure 9, Figure 10, Figure 11, Figure 12, Figure 13, Figure 14, Figure 15, Figure 16, Figure 17, Figure 18, Figure 19, Figure 20, Figure 21, Figure 22, Figure 23, Figure 24, Figure 25, Figure 26, Figure 27 and Figure 28.

DST testing was then conducted after the coring rig had moved off Plainview-3 from the 2nd to the 5th of May, 2008 over 4 separate intervals with permeabilities ranging from 3.61mD to 184.9mD across the Walloon Coal Measures. Permeabilities for the Argyle were good at 81.38mD with a high skin factor of 15.35 indicating this result may be an underestimation. Permeabilities in the upper Taroom were very high (184.9mD) with a very high skin factor of 30.04 indicating it is very likely this result may be an underestimation. However the lower Tarooms had a much lower permeability (9.01mD) with a very low skin factor of 0.18 indicating it is likely accurate.

6. REFERENCES

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APPENDIX 1 CORE LOG

From	To	Thickness	Lithology	%	Grain Size	Description	Geologist
0	6	6	NIL			NO SAMPLE: .	EarthData
6	9.8	3.8	ALLUV	50	Fine-Medium Sand	ALLUVIUM: light brown, fine to medium grained sand, occasional medium and large pebbles.	EarthData
9.8	12.8	3	SST	70	Medium-Coarse Sand	SANDSTONE: light brown, medium to coarse grained, tends to gravel, abundant orange pebbles.	EarthData
12.8	15.8	3	ZSST	40	Fine Sand	CLAYEY SAND: light brown to grey, fine grained, abundant pink/orange clasts.	EarthData
15.8	18.8	3	SST	80	Coarse Sand	SANDSTONE: light grey, coarse grained, occasional large quartz pebbles.	EarthData
18.8	21.8	3	ALLUV	40	Fine Sand	ALLUVIUM: light brown to brown, fine grained, occasional pebble, clayey mud throughout.	EarthData
21.8	24.8	3	ALLUV	40	Fine Sand	ALLUVIUM: brown to light orange, medium grained sand in part.	EarthData
24.8	27.8	3	ALLUV	10	Coal/Mud/Clay	ALLUVIUM: yellow brown, clayey throughout, occasional silty.	EarthData
27.8	30.8	3	ALLUV	10	Coal/Mud/Clay	ALLUVIUM: yellow to grey, clayey throughout, occasional silt.	EarthData
30.8	33.8	3	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, clayey.	EarthData
33.8	36.8	3	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, clayey, occasional silt.	EarthData
36.8	39.8	3	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, clayey, occasional carbonaceous traces.	EarthData
39.8	42.8	3	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, silty in part, occasional coal.	EarthData
42.8	45.8	3	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, clayey, silty in part.	EarthData
45.8	48.8	3	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, clayey, occasional silt.	EarthData
48.8	51.8	3	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, clayey, occasional silt.	EarthData
51.8	54.8	3	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, silty throughout, clayey.	EarthData
54.8	57.8	3	ZST	20	Silt	SILTSTONE: grey, occasional light grey very fine grained sandstone, clayey.	EarthData
57.8	60.8	3	ZST	20	Silt	SILTSTONE: grey, occasional light grey very fine grained sandstone, clayey.	EarthData
60.8	63.8	3	ZST	20	Silt	SILTSTONE: grey, occasional light grey very fine grained sandstone, clayey.	EarthData
63.8	66.8	3	SST	40	Fine Sand	SANDSTONE: light grey to grey, fine grained, occasional silt, occasional carbonaceous traces.	EarthData
66.8	69.8	3	SST	40	Fine Sand	SANDSTONE: light grey, fine grained, occasional silt.	EarthData
69.8	72.8	3	SST	40	Fine Sand	SANDSTONE: light grey to grey, fine grained, very occasional silt.	EarthData

72.8	75.8	3	ZST	20	Silt	SILTSTONE: grey, sandstone in part, occasional carbonaceous traces .	EarthData
75.8	78.8	3	ZST	20	Silt	SILTSTONE: grey, light grey sandstone throughout, clayey.	EarthData
78.8	81.8	3	SST	40	Fine Sand	SANDSTONE: grey to light grey, fine grained, silty throughout, occasional trace of mud.	EarthData
81.8	84.8	3	SST	40	Fine Sand	SANDSTONE: light grey to grey, fine grained, occasional silt and clay.	EarthData
84.8	87.8	3	SST	40	Fine Sand	SANDSTONE: light grey to grey, fine grained, silt throughout.	EarthData
87.8	90.8	3	SST	40	Fine Sand	SANDSTONE: grey to light grey, fine grained, silt throughout.	EarthData
90.8	93.8	3	SST	40	Fine Sand	SANDSTONE: light grey to grey, fine grained, occasional silt.	EarthData
93.8	96.8	3	ZST	20	Silt	SILTSTONE: grey, clayey in part.	EarthData
96.8	99.8	3	ZST	20	Silt	SILTSTONE: dark grey, muddy throughout.	EarthData
99.8	102.8	3	ZST	20	Silt	SILTSTONE: dark grey, muddy throughout.	EarthData
102.8	105.8	3	ZST	20	Silt	SILTSTONE: dark grey, very occasional sandstone.	EarthData
105.8	108.8	3	SST	40	Fine Sand	SANDSTONE: light grey, fine grained, occasional silt.	EarthData
108.8	111.8	3	SST	40	Fine Sand	SANDSTONE: light grey, fine grained, occasional silt.	EarthData
111.8	114.8	3	SST	40	Fine Sand	SANDSTONE: light grey, fine grained, very occasional silt.	EarthData
114.8	117.8	3	SST	40	Fine Sand	SANDSTONE: light grey, fine grained, silt throughout and carbonaceous traces, occasional clay.	EarthData
117.8	120.8	3	SST	40	Fine Sand	SANDSTONE: light grey, fine grained, occasional silt.	EarthData
120.8	123.8	3	SST	40	Fine Sand	SANDSTONE: light grey, fine grained, very occasional silt and carbonaceous traces.	EarthData
123.8	126.8	3	SST	60	Medium Sand	SANDSTONE: light grey, medium grained.	EarthData
126.8	129.8	3	ZST	20	Silt	SILTSTONE: grey, coal throughout, minimal grey sand.	EarthData
129.8	132.8	3	SST	40	Fine Sand	SANDSTONE: light grey to grey, fine grained, silt throughout, occasional coal fragments.	EarthData
132.8	135.8	3	SST	60	Medium Sand	SANDSTONE: light grey to grey, medium grained, occasional silt, occasional coal.	EarthData
135.8	138.8	3	ZST	20	Silt	SILTSTONE: grey, coal throughout, occasional mud, very occasional sand.	EarthData
138.8	141.8	3	ZST	20	Silt	SILTSTONE: grey, sandy throughout, occasional coal, mud and clay.	EarthData
141.8	144.07	2.27	ZST	20	Silt	SILTSTONE: grey, sandy throughout, occasional coal, mud and clay.	EarthData
144.07	147.53	3.46	SST	50	Fine-Medium	SANDSTONE: light grey to grey, fine to medium grained,	EarthData

					Sand	carbonaceous throughout, carbonaceous wisps throughout, occasional silty blebs, medium strength.	
147.53	147.58	0.05	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to dark brown, tends to stony coal, medium strength.	EarthData
147.58	150.76	3.18	SST	60	Medium Sand	SANDSTONE: light grey, medium grained, coal wisps throughout, occasional carbonaceous laminae, sharp basal contact.	EarthData
150.76	151.47	0.71	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, medium strength.	EarthData
151.47	151.57	0.1	COAL	10	Coal/Mud/Clay	COAL Dull banded: calcite veins throughout, face cleat, average spacing 3mm, penetrating 20% of unit, 90% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
151.57	153.07	1.5	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, tends to silty in part, occasional carbonaceous wisps.	EarthData
153.07	153.89	0.82	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, coal band at middle, 3 fractures, 70 degree fracture 0.3m from top of unit, .	EarthData
153.89	154.26	0.37	SST	40	Fine Sand	SANDSTONE: grey, fine grained, tends to silty throughout, carbonaceous in part, medium strength, sharp irregular basal contact.	EarthData
154.26	155.9	1.64	ZST	20	Silt	SILTSTONE: grey, tends to muddy in part, tends to mud/carb mudstone at base, coal band at middle, medium strength, 3 fractures.	EarthData
155.9	155.98	0.08	COAL	10	Coal/Mud/Clay	COAL Dull banded: face cleat, average spacing 5mm, penetrating 15% of unit, 30% clay filled, dips 90 degrees, no visible butt cleat.	EarthData
155.98	156.13	0.15	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, very low strength, fractured throughout.	EarthData
156.13	156.2	0.07	COAL	10	Coal/Mud/Clay	COAL Dull banded: face cleat, average spacing 12mm, penetrating 50% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
156.2	156.23	0.03	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, low strength.	EarthData
156.23	156.31	0.08	COAL	10	Coal/Mud/Clay	COAL Dull banded: face cleat, average spacing 2mm, penetrating 30% of unit, no visible mineralisation, dips 90 degrees, butt cleat, average spacing 4mm, penetrating 30% of unit, no visible mineralisation, dips 90 degrees with azimuth 60 degrees to face cleat.	EarthData
156.31	156.67	0.36	MUD	10	Coal/Mud/Clay	MUDSTONE: grey to dark grey, carbonaceous throughout, tuffaceous bands at base.	EarthData
156.67	156.92	0.25	COAL	10	Coal/Mud/Clay	COAL Dull banded: calcite veins throughout.	EarthData
156.92	158.98	2.06	SST	30	Very Fine Sand	SANDSTONE: grey to light grey, very fine grained, fine grained in part, carbonaceous throughout.	EarthData

158.98	159.15	0.17	ZST	20	Silt	SILTSTONE: light grey to grey, medium strength.	EarthData
159.15	159.67	0.52	SST	30	Very Fine Sand	SANDSTONE: light grey to grey, very fine grained, occasional carbonaceous traces, medium strength.	EarthData
159.67	161.98	2.31	ZSST	30	Very Fine Sand	SANDSTONE 50%: light grey to grey, occasional off white, very fine grained. SILTSTONE 50%: light grey to light brown, occasional coal bands, medium strength..	EarthData
161.98	162.21	0.23	ZST	20	Silt	SILTSTONE: grey to light grey, occasional coal wisps, medium to high strength, sharp basal contact.	EarthData
162.21	162.3	0.09	SST	40	Fine Sand	SANDSTONE: light grey to white, fine grained, very high strength, sharp irregular basal contact.	EarthData
162.3	164.26	1.96	SST	30	Very Fine Sand	SANDSTONE: light grey to grey, very fine grained, occasional fine grained bands, tends to silty throughout, occasional silty blebs, carbonaceous laminae throughout, 1 fracture, sharp basal contact.	EarthData
164.26	164.45	0.19	ZST	20	Silt	SILTSTONE: grey, very soft clay at top of unit.	EarthData
164.45	164.98	0.53	SST	20	Silt	SANDSTONE: grey, fine grained, occasional very high strength white bands, occasional carbonaceous laminae.	EarthData
164.98	165.68	0.7	ZST	20	Silt	SILTSTONE: grey, tends to muddy throughout, clay band at base, medium strength, sharp basal contact.	EarthData
165.68	165.88	0.2	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to dark grey.	EarthData
165.88	166.95	1.07	ZST	20	Silt	SILTSTONE: grey, coal band at middle, tends to mudstone in part, low to medium strength, occasional fracture.	EarthData
166.95	167.05	0.1	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 15mm, penetrating 10% of unit, 50% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
167.05	167.1	0.05	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to dark brown, tends to stony coal in part, medium strength.	EarthData
167.1	167.21	0.11	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 5mm, penetrating 10% of unit, 80% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
167.21	167.25	0.04	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: light brown, fractured, sharp irregular basal contact.	EarthData
167.25	167.34	0.09	COAL	10	Coal/Mud/Clay	COAL Dull banded: tends to muddy at base, face cleat, average spacing 3mm, penetrating 20% of unit, 80% carbonate filled, dips 90 degrees, butt cleat, average spacing 10mm, penetrating 20% of unit,	EarthData

						80% carbonate filled, dips 90 degrees with azimuth 80 degrees to face cleat.	
167.34	167.42	0.08	COAL	10	Coal/Mud/Clay	COAL Stony: dark brown to black, tends to carb mud throughout.	EarthData
167.42	167.51	0.09	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, coal wisps throughout, sharp basal contact.	EarthData
167.51	167.72	0.21	COAL	10	Coal/Mud/Clay	COAL Dull banded: face cleat, average spacing 10mm, penetrating 15% of unit, 70% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
167.72	167.98	0.26	ZST	20	Silt	SILTSTONE: grey to light grey, medium to high strength.	EarthData
167.98	169.7	1.72	ZST	20	Silt	SILTSTONE: grey to light grey, coal wisps at base, medium to high strength, 3 fractures.	EarthData
169.7	169.84	0.14	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low strength, 2 fractures.	EarthData
169.84	170.98	1.14	ZSST	25	Silt	SANDSTONE 40%: grey, very fine grained. SILTSTONE 60%: grey, carbonaceous laminae throughout, medium strength, 2 fractures..	EarthData
170.98	172.39	1.41	ZST	20	Silt	SILTSTONE: light grey, occasional gradation to claystone.	EarthData
172.39	172.5	0.11	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to black, occasional coal lenses.	EarthData
172.5	172.78	0.28	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 10mm, penetrating 100% of unit, 100% carbonate filled, dips 90 degrees, butt cleat, average spacing 10mm, penetrating 100% of unit, 100% carbonate filled, dips 90 degrees with azimuth 50 degrees to face cleat.	EarthData
172.78	172.79	0.01	COAL	10	Coal/Mud/Clay	COAL Stony: no visible cleat or fractures.	EarthData
172.79	173.2	0.41	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: tuffaceous in part, face cleat, average spacing 5mm, penetrating 90% of unit, 90% carbonate filled, dips 90 degrees, butt cleat, average spacing 10mm, penetrating 90% of unit, 90% carbonate filled, dips 90 degrees with azimuth 50 degrees to face cleat.	EarthData
173.2	173.27	0.07	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, low strength, sharp basal contact.	EarthData
173.27	173.29	0.02	COAL	10	Coal/Mud/Clay	COAL Stony: tuffaceous in part, low strength, no visible cleat or fractures.	EarthData
173.29	173.5	0.21	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 10mm, penetrating 100% of unit, 70% carbonate filled, dips 90 degrees, butt cleat, average spacing 15mm, penetrating 100% of unit, 70% carbonate filled, dips 90 degrees with azimuth 40 degrees to face cleat.	EarthData
173.5	173.95	0.45	SST	30	Very Fine Sand	SANDSTONE: light grey, very fine grained, occasional carbonaceous laminae, clayey matrix.	EarthData

173.95	173.98	0.03	ZST	20	Silt	SILTSTONE: grey, traces of carbonaceous fragments.	EarthData
173.98	174.46	0.48	ZST	20	Silt	SILTSTONE: dull grey to grey, arenaceous, tends to carbonaceous.	EarthData
174.46	174.69	0.23	SST	30	Very Fine Sand	SANDSTONE: light grey, very fine grained, carbonaceous laminae throughout, medium strength.	EarthData
174.69	175.44	0.75	ZST	20	Silt	SILTSTONE: dull grey to grey, arenaceous, tends to carbonaceous.	EarthData
175.44	175.9	0.46	SST	25	Silt	SANDSTONE: light grey, very fine grained, tends to fine grained at base, occasional carbonaceous laminae, tends to silty throughout.	EarthData
175.9	176.74	0.84	ZST	20	Silt	SILTSTONE: light brown to grey, tends to carbonaceous throughout.	EarthData
176.74	176.98	0.24	SST	25	Silt	SANDSTONE: light grey, very fine grained, occasional carbonaceous laminae, tends to silty throughout.	EarthData
176.98	177.51	0.53	ZST	20	Silt	SILTSTONE: grey, occasional very fine grained sandy bands, coal traces at 0.3m from top of unit, medium strength.	EarthData
177.51	179.98	2.47	SST	30	Very Fine Sand	SANDSTONE: light grey to grey, very fine grained, tends to fine grained in part, medium strength.	EarthData
179.98	180.48	0.5	ZST	20	Silt	SILTSTONE: grey, occasional carbonaceous laminae, medium strength, 1 fracture.	EarthData
180.48	181.7	1.22	SST	50	Fine-Medium Sand	SANDSTONE: grey, fine to medium grained, silty bands throughout, soft sediment deformation at base, gradational basal contact.	EarthData
181.7	182.18	0.48	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, tends to carbonaceous in part, medium strength, 1 fracture, gradational basal contact.	EarthData
182.18	182.68	0.5	ZST	20	Silt	SILTSTONE: grey, occasional carbonaceous traces, medium strength.	EarthData
182.68	185.52	2.84	ZST	20	Silt	SILTSTONE: dark grey to grey, muddy in part, occasional carbonaceous material, carbonaceous at base.	EarthData
185.52	185.87	0.35	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to black, tends to stony coal in part.	EarthData
185.87	186.07	0.2	ZST	20	Silt	SILTSTONE: light brown to off white, tends to claystone throughout, carbonaceous material throughout.	EarthData
186.07	186.84	0.77	ZST	20	Silt	SILTSTONE: black brown, tends to carb mudstone throughout.	EarthData
186.84	187.28	0.44	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, occasional quartz grains.	EarthData
187.28	188.18	0.9	SST	30	Very Fine Sand	SANDSTONE: light grey to brown, very fine grained, carbonaceous laminae throughout.	EarthData
188.18	188.94	0.76	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony laminae, face cleat, average spacing 20mm, penetrating 70% of unit, 80% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 70% of	EarthData

						unit, 80% carbonate filled, dips 90 degrees with azimuth 70 degrees to face cleat.	
188.94	189.07	0.13	COAL	10	Coal/Mud/Clay	COAL Stony: tending to carbonaceous mudstone, face cleat, average spacing 30mm, penetrating 30% of unit, 10% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 30% of unit, 10% carbonate filled, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
189.07	189.13	0.06	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: tending to stony coal, low strength.	EarthData
189.13	189.14	0.01	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 30mm, penetrating 30% of unit, no visible mineralisation, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 30% of unit, no visible mineralisation, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
189.14	189.17	0.03	TUFF	10	Coal/Mud/Clay	TUFF: grey brown, occasional carbonaceous laminae, very low strength to low strength.	EarthData
189.17	189.41	0.24	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black, tends to stony coal.	EarthData
189.41	189.55	0.14	SST	30	Very Fine Sand	SANDSTONE: light grey, very fine grained, carbonaceous matrix throughout.	EarthData
189.55	189.8	0.25	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black, tends to stony coal.	EarthData
189.8	190.09	0.29	ZST	20	Silt	SILTSTONE: light brown, carbonaceous throughout.	EarthData
190.09	190.29	0.2	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 5mm, penetrating 30% of unit, 20% carbonate filled, dips 90 degrees, butt cleat, average spacing 5mm, penetrating 30% of unit, 20% carbonate filled, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
190.29	190.35	0.06	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 20mm, penetrating 50% of unit, 10% carbonate filled, dips 90 degrees, butt cleat, average spacing 20mm, penetrating 50% of unit, 10% carbonate filled, dips 90 degrees with azimuth 70 degrees to face cleat.	EarthData
190.35	190.45	0.1	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 20mm, penetrating 30% of unit, 30% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 30% of unit, 30% carbonate filled, dips 90 degrees with azimuth 70 degrees to face cleat.	EarthData
190.45	190.58	0.13	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, tends to stony coal in part.	EarthData

190.58	191.81	1.23	ZST	20	Silt	SILTSTONE: light grey, occasional carbonaceous laminae, occasional quartz grains.	EarthData
191.81	194.63	2.82	ZSST	25	Silt	SANDSTONE 30%: light grey , very fine grained to fine grained. SILTSTONE 70%: grey, interlaminated to thinly interbedded, medium strength..	EarthData
194.63	197.93	3.3	ZST	20	Silt	SILTSTONE: grey, tends to muddy in part, occasional sandy bands, carbonaceous traces throughout, medium strength.	EarthData
197.93	198.92	0.99	SST	40	Fine Sand	SANDSTONE: grey, fine grained, coal wisps in part, carbonaceous throughout, low strength, sharp basal contact.	EarthData
198.92	199.01	0.09	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: tends to stony coal throughout, face cleat, average spacing 5mm, penetrating 10% of unit, 50% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
199.01	199.06	0.05	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown dark brown, tends to stony coal in part.	EarthData
199.06	199.1	0.04	COAL	10	Coal/Mud/Clay	COAL Stony: dark brown to black, tends to carb mud in part.	EarthData
199.1	199.15	0.05	TUFF	10	Coal/Mud/Clay	TUFF: grey to off white, coal band at middle, low strength.	EarthData
199.15	199.23	0.08	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: tuffaceous in part, face cleat, average spacing 4mm, penetrating 10% of unit, 80% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
199.23	199.52	0.29	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low strength, fractured throughout.	EarthData
199.52	199.67	0.15	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 4mm, penetrating 10% of unit, 80% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
199.67	199.77	0.1	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to dark brown, silty in part.	EarthData
199.77	200.6	0.83	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, tends to silty at top, low strength.	EarthData
200.6	200.75	0.15	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: tends to stony coal and carb mud throughout, face cleat, average spacing 5mm, penetrating 10% of unit, 40% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
200.75	201.4	0.65	ZST	20	Silt	SILTSTONE: grey, tends to muddy throughout, low to medium strength, fractured at base.	EarthData
201.4	202.82	1.42	SST	40	Fine Sand	SANDSTONE: light grey, fine grained, occasional carbonaceous laminae, silty at base.	EarthData
202.82	203.3	0.48	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low strength, fractured throughout.	EarthData
203.3	204.07	0.77	ZST	20	Silt	SILTSTONE: grey, medium strength.	EarthData
204.07	206.92	2.85	ZSST	25	Silt	SANDSTONE 60%: grey to light grey, very fine grained. SILTSTONE	EarthData

						40%: grey, occasional fine grained sandy bands, low to medium strength, 7 fractures..	
206.92	207.48	0.56	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low strength, 1 fracture, sharp basal contact.	EarthData
207.48	209.83	2.35	SST	40	Fine Sand	SANDSTONE: grey, fine grained, coal wisps throughout. occasional coal bands, carbonaceous throughout, sharp basal contact.	EarthData
209.83	210.07	0.24	ZST	20	Silt	SILTSTONE: grey, occasional carbonaceous traces, medium strength.	EarthData
210.07	211.2	1.13	ZST	20	Silt	SILTSTONE: grey, tends to muddy throughout, 5 fractures, 70 degree fracture at base of unit.	EarthData
211.2	211.76	0.56	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, occasional coal and tuffaceous bands, tends to mudstone at base, low strength, 2 fractures.	EarthData
211.76	212.53	0.77	ZST	20	Silt	SILTSTONE: grey, tends to sandy in part, 6 fractures, 80 degree fracture at 0.1m from top of unit, gradational basal contact.	EarthData
212.53	213	0.47	SST	40	Fine Sand	SANDSTONE: light grey to grey, fine grained, carbonaceous throughout, gradational basal contact.	EarthData
213	214.61	1.61	ZST	20	Silt	SILTSTONE: grey, tends to muddy in part, occasional very fine grained sandy bands, sideritic nodules at base, medium strength, gradational basal contact.	EarthData
214.61	214.72	0.11	SIDER	10	Coal/Mud/Clay	SIDERITE: light brown, very high strength, gradational basal contact.	EarthData
214.72	215.86	1.14	ZST	20	Silt	SILTSTONE: grey to light grey, occasional sandy bands, tends to muddy in part, medium strength, 4 fractures.	EarthData
215.86	217.57	1.71	ZST	20	Silt	SILTSTONE: light grey, tends to very fine grained sandstone throughout, low to medium strength, 1 fracture, gradational basal contact.	EarthData
217.57	219.27	1.7	SST	40	Fine Sand	SANDSTONE: light grey, fine grained, occasional silty bands, carbonaceous wisps at base, 1 fracture.	EarthData
219.27	219.47	0.2	SIDER	10	Coal/Mud/Clay	SIDERITE: light grey, calcite veins throughout, carb mud band at top, very high strength.	EarthData
219.47	220.09	0.62	ZST	20	Silt	SILTSTONE: light grey to grey, soft sediment deformation at base, carbonaceous throughout, 2 fractures, sharp basal contact.	EarthData
220.09	220.45	0.36	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to dark brown, tends to mudstone at base, low to medium strength, gradational basal contact.	EarthData
220.45	221.29	0.84	ZST	20	Silt	SILTSTONE: grey, muddy at top, low to medium strength, 1 fracture.	EarthData
221.29	221.52	0.23	SST	40	Fine Sand	SANDSTONE: light grey, fine grained, medium strength.	EarthData

221.52	221.83	0.31	ZST	20	Silt	SILTSTONE: grey, tends to muddy in part, medium strength.	EarthData
221.83	222.55	0.72	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low strength, sharp basal contact.	EarthData
222.55	222.65	0.1	MUD	10	Coal/Mud/Clay	MUDSTONE: off white to light grey, clayey, very low strength, sharp basal contact.	EarthData
222.65	223.12	0.47	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: light brown, tuffaceous bands throughout, low strength, sharp basal contact.	EarthData
223.12	223.27	0.15	TUFF	10	Coal/Mud/Clay	TUFF: off white to light brown, low strength, sharp basal contact.	EarthData
223.27	223.33	0.06	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to dark brown, low strength.	EarthData
223.33	223.46	0.13	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 5mm, penetrating 40% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
223.46	223.49	0.03	COAL	10	Coal/Mud/Clay	COAL Dull: tending to carbonaceous mudstone.	EarthData
223.49	223.52	0.03	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 5mm, penetrating 10% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
223.52	223.55	0.03	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, low strength.	EarthData
223.55	223.6	0.05	TUFF	10	Coal/Mud/Clay	TUFF: grey brown, occasional carbonaceous laminae, very low strength to low strength, gradational basal contact.	EarthData
223.6	223.81	0.21	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 20mm, penetrating 50% of unit, 40% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
223.81	225.61	1.8	ZST	20	Silt	SILTSTONE: light grey, tends to very fine grained sandstone throughout, muddy in part, occasional carbonaceous traces.	EarthData
225.61	225.99	0.38	SST	30	Very Fine Sand	SANDSTONE: light grey, very fine grained, occasional carbonaceous wisps, occasional coal bands.	EarthData
225.99	228.02	2.03	ZST	20	Silt	SILTSTONE: light grey, tends to very fine grained sandstone in part, occasional carbonaceous traces, medium to high strength.	EarthData
228.02	229.66	1.64	SST	30	Very Fine Sand	SANDSTONE: light grey, very fine grained, very occasional carbonaceous traces, muddy at base, medium strength.	EarthData
229.66	229.81	0.15	SIDER	10	Coal/Mud/Clay	SIDERITE: light brown to grey, calcite veins throughout, very high strength.	EarthData
229.81	230.45	0.64	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, coal wisps at base, tuffaceous at base, low to medium strength, fractured throughout.	EarthData
230.45	230.48	0.03	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 7mm, penetrating 1% of unit,	EarthData

						no visible mineralisation, dips 90 degrees, no visible butt cleat.	
230.48	230.51	0.03	TUFF	10	Coal/Mud/Clay	TUFF: off white to light grey, carbonaceous traces, low strength.	EarthData
230.51	230.65	0.14	COAL	10	Coal/Mud/Clay	COAL Stony: dark brown to black, tuffaceous in part.	EarthData
230.65	231.42	0.77	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low strength, faulted basal contact.	EarthData
231.42	232	0.58	ZST	20	Silt	SILTSTONE: grey, tends to sandy at base, 1 fracture.	EarthData
232	232.3	0.3	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: light brown, tuffaceous in part, tends to stony coal at middle, gradational basal contact.	EarthData
232.3	232.62	0.32	MUD	10	Coal/Mud/Clay	MUDSTONE: light grey, tuffaceous throughout, carbonaceous traces throughout.	EarthData
232.62	232.64	0.02	MUD	10	Coal/Mud/Clay	MUDSTONE: light grey, occasional carbonaceous traces, low strength.	EarthData
232.64	233.02	0.38	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 5mm, penetrating 20% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
233.02	234.17	1.15	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low strength, badly broken throughout.	EarthData
234.17	234.91	0.74	ZST	20	Silt	SILTSTONE: grey, tends to muddy at top, medium strength, gradational basal contact.	EarthData
234.91	235.32	0.41	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low to medium strength, 4 fractures.	EarthData
235.32	236.28	0.96	ZST	20	Silt	SILTSTONE: grey, sandy in part, carbonaceous in part, tends to muddy at base, pitted clasts at 0.65m from top of unit.	EarthData
236.28	236.5	0.22	SIDER	10	Coal/Mud/Clay	SIDERITE: light brown, very high strength, irregular basal contact.	EarthData
236.5	237.41	0.91	ZST	20	Silt	SILTSTONE: grey, occasional sandy bands, medium strength.	EarthData
237.41	239.45	2.04	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, tends to carb mud in part, occasional clayey nodule, fractured throughout.	EarthData
239.45	239.86	0.41	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: light brown, tuffaceous throughout, occasional stony coal bands.	EarthData
239.86	240.17	0.31	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, tends to silty at base, fractured at top.	EarthData
240.17	241.69	1.52	ZST	20	Silt	SILTSTONE: grey, tends to muddy at middle, 10 fractures, 75 degree fracture at base.	EarthData
241.69	241.74	0.05	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to dark brown, coal wisps throughout, gradational basal contact.	EarthData
241.74	241.98	0.24	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: tends to carb mud in part, cc mineralisation, cleated.	EarthData

241.98	242.03	0.05	TUFF	10	Coal/Mud/Clay	TUFF: off white, coal wisps throughout, low strength.	EarthData
242.03	242.11	0.08	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, coal wisps throughout, low to medium strength.	EarthData
242.11	242.24	0.13	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 5mm, penetrating 10% of unit, 80% carbonate filled, dips 90 degrees, butt cleat, average spacing 10mm, penetrating 80% of unit, 50% carbonate filled, dips 90 degrees with azimuth 85 degrees to face cleat.	EarthData
242.24	242.4	0.16	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, coal wisps throughout, low to medium strength.	EarthData
242.4	243.5	1.1	ZST	20	Silt	SILTSTONE: grey, tends to very fine grained sand in part, carbonaceous laminae throughout, 1 fracture, gradational basal contact.	EarthData
243.5	246.2	2.7	SST	40	Fine Sand	SANDSTONE: light grey to grey, fine grained, carbonaceous laminae throughout, medium strength.	EarthData
246.2	246.75	0.55	SST	50	Fine-Medium Sand	SANDSTONE: light grey, fine to medium grained, occasional carbonaceous laminae, medium to high strength, sharp basal contact.	EarthData
246.75	247.18	0.43	ZST	20	Silt	SILTSTONE: grey, medium to high strength, sharp basal contact.	EarthData
247.18	247.37	0.19	SST	50	Fine-Medium Sand	SANDSTONE: light grey, fine to medium grained, medium to high strength.	EarthData
247.37	247.52	0.15	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, occasional coal wisps, faulted basal contact.	EarthData
247.52	248.8	1.28	ZST	20	Silt	SILTSTONE: grey, very occasional carbonaceous wisps, muddy throughout.	EarthData
248.8	248.9	0.1	COAL	10	Coal/Mud/Clay	COAL Dull banded: face cleat, average spacing 5mm, penetrating 40% of unit, 80% carbonate filled, dips 90 degrees, butt cleat, average spacing 40mm, penetrating 40% of unit, 80% carbonate filled, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
248.9	249	0.1	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, coal bands throughout, gradational basal contact.	EarthData
249	249.76	0.76	SST	30	Very Fine Sand	SANDSTONE: grey, very fine grained, tends to silty at top, carbonaceous laminae throughout, medium to high strength.	EarthData
249.76	251.45	1.69	ZST	20	Silt	SILTSTONE: grey, sandy bands in part, muddy in part, trace of carbonate, gradational basal contact.	EarthData
251.45	251.54	0.09	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, grey at base, low to medium strength, gradational basal contact.	EarthData

251.54	251.72	0.18	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low to medium strength, fractured at base.	EarthData
251.72	253.27	1.55	ZST	20	Silt	SILTSTONE: grey, occasional carbonaceous laminae, medium strength.	EarthData
253.27	256.99	3.72	SST	40	Fine Sand	SANDSTONE: grey, fine grained, fine to medium grained in part, occasional coal band, carbonaceous laminae throughout, cross bedding in part, medium to high strength.	EarthData
256.99	257.07	0.08	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, low to medium strength, fractured throughout.	EarthData
257.07	258.67	1.6	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, tends to silty at top, occasional sideritic bands, medium strength.	EarthData
258.67	259.46	0.79	SIDER	10	Coal/Mud/Clay	SIDERITE: light grey to light brown, occasional muddy lenses, very high strength.	EarthData
259.46	264.98	5.52	ZSST	25	Silt	SANDSTONE 40%: light grey, very fine grained. SILTSTONE 60%: grey to light grey, occasional sideritic bands, occasional muddy bands, interlaminated to occasionally thinly interbedded, medium to high strength..	EarthData
264.98	270.16	5.18	SST	60	Medium Sand	SANDSTONE: light grey, medium grained, carbonaceous laminae throughout, very occasional clayey nodule, medium to high strength.	EarthData
270.16	270.45	0.29	SST	50	Fine-Medium Sand	SANDSTONE: light grey, medium grained, carbonaceous laminae throughout.	EarthData
270.45	270.56	0.11	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 3mm, penetrating 10% of unit, 50% carbonate filled, dips 90 degrees, butt cleat, average spacing 9mm, penetrating 10% of unit, 70% carbonate filled, dips 90 degrees with azimuth 85 degrees to face cleat.	EarthData
270.56	270.64	0.08	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 30mm, penetrating 30% of unit, 30% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 30% of unit, 30% carbonate filled, dips 90 degrees with azimuth 70 degrees to face cleat.	EarthData
270.64	270.69	0.05	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark grey, tuffaceous, low strength.	EarthData
270.69	271.07	0.38	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony laminae, face cleat, average spacing 20mm, penetrating 80% of unit, 60% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
271.07	271.09	0.02	TUFF	10	Coal/Mud/Clay	TUFF: grey brown, occasional carbonaceous laminae, low strength.	EarthData
271.09	271.59	0.5	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average	EarthData

						spacing 5mm, penetrating 80% of unit, 30% carbonate filled, dips 90 degrees, butt cleat, average spacing 5mm, penetrating 70% of unit, 30% carbonate filled, dips 90 degrees with azimuth 80 degrees to face cleat.	
271.59	273.43	1.84	ZST	20	Silt	SILTSTONE: grey, tends to mudstone in part, occasional carbonaceous laminae, medium strength.	EarthData
273.43	273.59	0.16	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 4mm, penetrating 10% of unit, 20% carbonate filled, dips 90 degrees, butt cleat, average spacing 10mm, penetrating 10% of unit, 20% carbonate filled, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
273.59	273.65	0.06	TUFF	10	Coal/Mud/Clay	TUFF: grey brown, occasional carbonaceous laminae, low strength.	EarthData
273.65	273.76	0.11	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 5mm, penetrating 50% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
273.76	273.79	0.03	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown to dark grey, tuffaceous, low strength.	EarthData
273.79	273.99	0.2	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 5mm, penetrating 60% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
273.99	274.01	0.02	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark grey, tuffaceous, low strength.	EarthData
274.01	274.55	0.54	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 5mm, penetrating 60% of unit, 20% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
274.55	276.15	1.6	ZST	20	Silt	SILTSTONE: grey, occasional coal wisps.	EarthData
276.15	277.11	0.96	ZST	20	Silt	SILTSTONE: grey, tends to muddy throughout, occasional sideritic band.	EarthData
277.11	277.48	0.37	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, sideritic traces, low strength.	EarthData
277.48	280.66	3.18	ZST	20	Silt	SILTSTONE: grey, muddy in part, sideritic bands and nodules, occasional coal wisps, medium strength.	EarthData
280.66	281.27	0.61	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, tends to carb mud at base, coal wisps at base, low strength.	EarthData
281.27	281.47	0.2	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: cc mineralisation, tends to stony coal in part.	EarthData
281.47	281.51	0.04	TUFF	10	Coal/Mud/Clay	TUFF: off white to light brown, coal wisps throughout, low strength.	EarthData

281.51	281.56	0.05	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: tends to stony coal throughout, no visible cleat or fractures.	EarthData
281.56	282.15	0.59	ZST	20	Silt	SILTSTONE: grey to light grey, coal wisps at top, occasional carbonaceous laminae, medium strength.	EarthData
282.15	282.43	0.28	ZST	20	Silt	SILTSTONE: grey, muddy at base, gradational basal contact.	EarthData
282.43	282.66	0.23	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, occasional coal bands, tends to stony coal at base.	EarthData
282.66	282.88	0.22	COAL	10	Coal/Mud/Clay	COAL Dull banded: cc mineralisation, carb mud in part.	EarthData
282.88	283.63	0.75	ZST	20	Silt	SILTSTONE: grey, muddy in part, occasional coal wisps.	EarthData
283.63	284.1	0.47	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, tends to carb mud at base, low strength, broken throughout, gradational basal contact.	EarthData
284.1	284.8	0.7	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to grey, tends to muddy at top, tuffaceous band at base, low to medium strength.	EarthData
284.8	284.97	0.17	COAL	10	Coal/Mud/Clay	COAL Stony: black brown, tends to carb mud throughout.	EarthData
284.97	285.31	0.34	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low strength, fractured throughout.	EarthData
285.31	285.51	0.2	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: cc mineralisation, tends to stony coal in part.	EarthData
285.51	288.15	2.64	ZST	20	Silt	SILTSTONE: grey, tends to muddy at top, tends to sandy at base, occasional carbonaceous laminae, medium strength.	EarthData
288.15	290.5	2.35	ZST	20	Silt	SILTSTONE: grey, occasional carbonaceous laminae, carbonaceous at middle, gradational basal contact.	EarthData
290.5	291.15	0.65	SST	50	Fine-Medium Sand	SANDSTONE: light grey, medium grained, occasional carbonaceous laminae, medium strength.	EarthData
291.15	291.45	0.3	SST	50	Fine-Medium Sand	SANDSTONE: light grey, medium grained, medium to high strength.	EarthData
291.45	292.46	1.01	SST	50	Fine-Medium Sand	SANDSTONE: light grey, medium grained, carbonaceous laminae at middle, medium to high strength, 1 fracture.	EarthData
292.46	295.61	3.15	SST	40	Fine Sand	SANDSTONE: grey, fine grained, occasionally very fine grained, abundant carbonaceous laminae at top, coal band at 1.50m from top of unit, occasional coal wisps, occasional silty blebs, medium strength, 1 fracture, gradational basal contact.	EarthData
295.61	301.86	6.25	SST	50	Fine-Medium Sand	SANDSTONE: light grey, medium grained, carbonaceous laminae throughout, occasional coal wisps, medium strength, 4 fractures, sharp basal contact.	EarthData

301.86	302.07	0.21	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, coal wisps at base, medium strength.	EarthData
302.07	302.25	0.18	COAL	10	Coal/Mud/Clay	COAL Dull: tending to carbonaceous mudstone, face cleat, average spacing 5mm, penetrating 30% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
302.25	302.31	0.06	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark grey, low strength.	EarthData
302.31	302.41	0.1	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 5mm, penetrating 60% of unit, 60% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
302.41	302.54	0.13	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark grey, tending to stony coal at base, low strength.	EarthData
302.54	302.9	0.36	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional coal laminae, tending to stony coal in part, face cleat, average spacing 5mm, penetrating 40% of unit, 100% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
302.9	303.03	0.13	MUD	10	Coal/Mud/Clay	MUDSTONE: grey to dark grey, coal wisps throughout, tends to carb mud at base.	EarthData
303.03	306.16	3.13	ZST	20	Silt	SILTSTONE: light grey, coal wisps throughout, tends to muddy in part, sideritic traces throughout, medium strength.	EarthData
306.16	306.61	0.45	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to light brown, sideritic in part, medium to high strength.	EarthData
306.61	307.48	0.87	ZST	20	Silt	SILTSTONE: light grey to grey, tends to muddy at top, sandy bands at base, medium strength, gradational basal contact.	EarthData
307.48	310.96	3.48	SST	40	Fine Sand	SANDSTONE: grey, fine grained, occasional sideritic nodule, carbonaceous in part, carbonaceous laminae throughout, medium to high strength.	EarthData
310.96	311.72	0.76	SST	40	Fine Sand	SANDSTONE: light grey to white, fine grained, sideritic throughout, occasional carbonaceous traces, very high strength, irregular basal contact.	EarthData
311.72	312.95	1.23	SST	40	Fine Sand	SANDSTONE: grey, fine grained, medium strength.	EarthData
312.95	313.03	0.08	COAL	10	Coal/Mud/Clay	COAL Dull: no visible cleat or fractures.	EarthData
313.03	313.21	0.18	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, tends to muddy at base, low to medium strength.	EarthData
313.21	313.56	0.35	MUD	10	Coal/Mud/Clay	MUDSTONE: grey to brown, coal wisps throughout, low strength.	EarthData
313.56	313.81	0.25	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown to black, tends to stony coal in part, medium strength.	EarthData

313.81	313.89	0.08	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 3mm, penetrating 10% of unit, 70% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
313.89	315.04	1.15	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown to black, tends to muddy in part, coal bands throughout.	EarthData
315.04	315.1	0.06	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 3mm, penetrating 10% of unit, no visible mineralisation, dips 90 degrees, butt cleat, average spacing 6mm, penetrating 10% of unit, no visible mineralisation, dips 90 degrees with azimuth 70 degrees to face cleat.	EarthData
315.10	315.81	0.71	ZST	20	Silt	SILTSTONE: grey, tends to muddy at base, occasional coal wisps.	EarthData
315.81	316.14	0.33	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony laminae, face cleat, average spacing 5mm, penetrating 30% of unit, 30% carbonate filled, dips 90 degrees, butt cleat, average spacing 5mm, penetrating 30% of unit, 30% carbonate filled, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
316.14	317.33	1.19	ZST	20	Silt	SILTSTONE: grey, tends to muddy in part, occasional carbonaceous laminae, medium strength, gradational basal contact.	EarthData
317.33	318.01	0.68	MUD	10	Coal/Mud/Clay	MUDSTONE: grey to dark grey, occasional carbonaceous traces, medium strength.	EarthData
318.01	323.19	5.18	ZST	20	Silt	SILTSTONE: grey, tends to muddy in part, occasional coal wisps, sideritic in part, medium strength.	EarthData
323.19	323.58	0.39	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low to medium strength, fractured.	EarthData
323.58	323.67	0.09	COAL	10	Coal/Mud/Clay	COAL Stony: face cleat, average spacing 30mm, penetrating 60% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
323.67	323.73	0.06	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: grey to dark grey, tuffaceous, low strength.	EarthData
323.73	324.06	0.33	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 20mm, penetrating 60% of unit, 30% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 70% of unit, 100% carbonate filled, dips 90 degrees with azimuth 50 degrees to face cleat.	EarthData
324.06	324.35	0.29	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: .	EarthData
324.35	325.49	1.14	ZST	20	Silt	SILTSTONE: grey, occasional carbonaceous laminae, carbonaceous at top.	EarthData
325.49	326.01	0.52	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: tending to stony coal, face cleat, average	EarthData

						spacing 30mm, penetrating 90% of unit, 100% carbonate filled, dips 90 degrees, no visible butt cleat.	
326.01	326.06	0.05	TUFF	10	Coal/Mud/Clay	TUFF: grey brown to light grey, occasional carbonaceous traces, low strength.	EarthData
326.06	326.24	0.18	COAL	10	Coal/Mud/Clay	COAL Dull: occasional stony traces, low strength, face cleat, average spacing 20mm, penetrating 70% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
326.24	326.27	0.03	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, very low strength to low strength.	EarthData
326.27	326.43	0.16	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown to black, coal bands throughout.	EarthData
326.43	327.72	1.29	ZST	20	Silt	SILTSTONE: grey, occasional carbonaceous laminae.	EarthData
327.72	327.87	0.15	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, tends to stony coal throughout.	EarthData
327.87	328.01	0.14	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 5mm, penetrating 30% of unit, 10% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
328.01	328.05	0.04	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark grey, tending to stony coal, tuffaceous, low strength.	EarthData
328.05	328.39	0.34	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: tending to stony coal, face cleat, average spacing 30mm, penetrating 70% of unit, 20% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
328.39	328.48	0.09	TUFF	10	Coal/Mud/Clay	TUFF: brown, occasional carbonaceous laminae, low strength.	EarthData
328.48	328.8	0.32	COAL	10	Coal/Mud/Clay	COAL Dull: tending to stony coal, face cleat, average spacing 30mm, penetrating 70% of unit, no visible mineralisation, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 70% of unit, no visible mineralisation, dips 90 degrees with azimuth 80 degrees to face cleat.	EarthData
328.8	329.63	0.83	ZST	20	Silt	SILTSTONE: grey, occasional coal wisps.	EarthData
329.63	329.78	0.15	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, tends to carb mud throughout, occasional coal wisps.	EarthData
329.78	329.88	0.1	COAL	10	Coal/Mud/Clay	COAL Dull banded: face cleat, average spacing 5mm, penetrating 20% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
329.88	330.27	0.39	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, coal bands throughout, tends to muddy at base.	EarthData
330.27	331.4	1.13	ZST	20	Silt	SILTSTONE: grey, tends to muddy in part, medium strength.	EarthData
331.4	331.49	0.09	COAL	10	Coal/Mud/Clay	COAL Stony: black brown, tends to carb mud in part.	EarthData

331.49	331.74	0.25	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: tends to stony coal in part.	EarthData
331.74	334.08	2.34	ZST	20	Silt	SILTSTONE: grey, tends to stony coal at top, tends to muddy in part, medium strength, fractured throughout.	EarthData
334.08	338.72	4.64	ZST	20	Silt	SILTSTONE: grey, occasional coal wisps, occasional sandy bands, occasional sideritic bands, 50 degree slickensided fracture at 2.75m from top of unit.	EarthData
338.72	338.97	0.25	NIL		No sample	CORE LOSS: .	EarthData
338.97	340.85	1.88	ZST	20	Silt	SILTSTONE: grey, muddy in part, occasional coal wisps and bands, occasional sandy bands, gradational basal contact.	EarthData
340.85	341.03	0.18	COAL	10	Coal/Mud/Clay	COAL Dull banded: cleated, cc mineralisation.	EarthData
341.03	341.19	0.16	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, occasional coal wisps, low to medium strength.	EarthData
341.19	341.32	0.13	COAL	10	Coal/Mud/Clay	COAL Dull banded: tends to stony coal throughout, no visible cleat or fractures.	EarthData
341.32	341.55	0.23	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: light brown to black, muddy at base, coal wisps throughout, fractured at base.	EarthData
341.55	342.33	0.78	ZST	20	Silt	SILTSTONE: grey, tends to very fine grained sandstone in part, coal wisps throughout, carbonaceous at base.	EarthData
342.33	343.08	0.75	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, carbonaceous in part, low strength, badly broken throughout.	EarthData
343.08	343.28	0.2	COAL	10	Coal/Mud/Clay	COAL Dull: occasional stony and carbonate traces, face cleat, average spacing 30mm, penetrating 20% of unit, 30% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 20% of unit, 30% carbonate filled, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
343.28	343.3	0.02	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark grey, low strength.	EarthData
343.3	343.35	0.05	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 5mm, penetrating 20% of unit, 10% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
343.35	343.42	0.07	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, occasional coal wisps, very low strength to low strength.	EarthData
343.42	343.47	0.05	NIL		No sample	CORE LOSS: .	EarthData
343.47	343.62	0.15	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low strength, badly broken throughout.	EarthData
343.62	343.76	0.14	COAL	10	Coal/Mud/Clay	COAL Dull banded: badly broken throughout, face cleat, average spacing 8mm, penetrating 15% of unit, no visible mineralisation, dips	EarthData

						90 degrees, no visible butt cleat.	
343.76	343.83	0.07	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, occasional coal wisps, low strength.	EarthData
343.83	343.91	0.08	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to grey, coal wisps throughout.	EarthData
343.91	344.17	0.26	COAL	10	Coal/Mud/Clay	COAL Dull banded: cc mineralisation, tends to stony coal in part.	EarthData
344.17	344.7	0.53	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to grey, tends to muddy in part, coal wisps throughout, occasional coal bands.	EarthData
344.7	345.09	0.39	ZST	20	Silt	SILTSTONE: grey to light grey, occasional carbonaceous laminae.	EarthData
345.09	345.18	0.09	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, badly broken.	EarthData
345.18	345.31	0.13	COAL	10	Coal/Mud/Clay	COAL Dull banded: fragmented, face cleat, average spacing 2mm, penetrating 20% of unit, 20% carbonate filled, dips 90 degrees, butt cleat, average spacing 8mm, penetrating 20% of unit, 20% carbonate filled, dips 90 degrees with azimuth 65 degrees to face cleat.	EarthData
345.31	345.94	0.63	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, carbonaceous at top, low to medium strength.	EarthData
345.94	347.35	1.41	ZST	20	Silt	SILTSTONE: grey, occasional sandy bands, carbonaceous laminae throughout, occasional coal wisps, medium strength, sharp basal contact.	EarthData
347.35	352.82	5.47	SST	50	Fine-Medium Sand	SANDSTONE: light grey, fine to medium grained, carbonaceous laminae throughout, occasional silty bands and blebs, medium to high strength.	EarthData
352.82	353.04	0.22	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: cleated, cc mineralisation, tuffaceous bands at top and at base.	EarthData
353.04	355.22	2.18	ZST	20	Silt	SILTSTONE: grey to light grey, tends to muddy throughout, occasional coal wisps.	EarthData
355.22	355.75	0.53	MUD	10	Coal/Mud/Clay	MUDSTONE: grey, low to medium strength, fractured at middle.	EarthData
355.75	358.79	3.04	ZST	20	Silt	SILTSTONE: grey, very occasional carbonaceous trace, occasional clayey nodule, tends to muddy in part, tends to carb mud in middle, carb mud band at 1.72m, , medium strength, 8 fractures, gradational basal contact.	EarthData
358.79	367.85	9.06	SST	70	Medium-Coarse Sand	SANDSTONE: light grey to grey, fine to coarse grained, common siltstone laminae and thin beds at top, sideritic thin bed at 1.72m, carbonaceous clasts at bottom, high strength, 15 fractures, sharp basal contact.	EarthData
367.85	367.95	0.1	ZST	20	Silt	SILTSTONE: grey, carbonaceous wisps, medium strength, sharp basal contact.	EarthData

367.95	368.06	0.11	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 40mm, penetrating 90% of unit, 90% carbonate filled, dips 80 degrees, no visible butt cleat.	EarthData
368.06	368.25	0.19	ZST	20	Silt	SILTSTONE: grey, medium strength, 2 fractures, gradational basal contact.	EarthData
368.25	368.34	0.09	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, coaly traces, medium strength, sharp basal contact.	EarthData
368.34	368.42	0.08	MUD	10	Coal/Mud/Clay	MUDSTONE: dark grey brown, carbonaceous traces, medium strength, sharp irregular basal contact.	EarthData
368.42	368.49	0.07	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 40mm, penetrating 100% of unit, no visible mineralisation, dips 80 degrees, butt cleat, average spacing 50mm, penetrating 100% of unit, no visible mineralisation, dips 80 degrees with azimuth 90 degrees to face cleat.	EarthData
368.49	368.56	0.07	MUD	10	Coal/Mud/Clay	MUDSTONE: brown grey, medium strength, sharp basal contact.	EarthData
368.56	368.6	0.04	ZST	20	Silt	SILTSTONE: grey, carbonaceous traces, medium strength, basal parting.	EarthData
368.6	368.63	0.03	COAL	10	Coal/Mud/Clay	COAL Dull banded: fractured.	EarthData
368.63	368.7	0.07	TUFF	10	Coal/Mud/Clay	TUFF: cream brown, low strength, sharp irregular basal contact.	EarthData
368.7	368.81	0.11	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 40mm, penetrating 100% of unit, 70% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
368.81	369.63	0.82	ZST	20	Silt	SILTSTONE: grey, common carbonaceous wisps, carb mud band at .23m, medium strength, 6 fractures, sharp basal contact.	EarthData
369.63	371.09	1.46	SST	30	Very Fine Sand	SANDSTONE: grey to light grey, very fine grained to fine grained, siltstone laminae, carbonaceous traces at bottom, high strength, 5 fractures, basal parting.	EarthData
371.09	371.18	0.09	MUD	10	Coal/Mud/Clay	MUDSTONE: light brown, carbonaceous traces and wisps, medium strength, sharp irregular basal contact.	EarthData
371.18	371.31	0.13	ZST	20	Silt	SILTSTONE: grey, medium strength, sharp basal contact.	EarthData
371.31	371.4	0.09	TUFF	10	Coal/Mud/Clay	TUFF: cream, carbonaceous wisps, low strength, sharp basal contact.	EarthData
371.4	371.49	0.09	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, carbonaceous traces, medium strength, sharp irregular basal contact.	EarthData
371.49	373.35	1.86	ZST	20	Silt	SILTSTONE: grey, sandstone laminae, carbonaceous wisps, carb mud band at 1.06m and 1.12m, carbonaceous thick traces at bottom, high strength, 7 fractures, gradational basal contact.	EarthData

373.35	375.8	2.45	SST	30	Very Fine Sand	SANDSTONE: grey, very fine grained to fine grained, siltstone laminae, occasional sideritic clasts, silty at bottom, high strength, 11 fractures, sharp irregular basal contact.	EarthData
375.8	377.21	1.41	SST	50	Fine-Medium Sand	SANDSTONE: light grey, fine to medium grained, occasional siltstone laminae, , high strength, 3 fractures, gradational basal contact.	EarthData
377.21	377.97	0.76	ZST	20	Silt	SILTSTONE: grey, mudstone band at .56m, medium strength, 7 fractures, sharp irregular basal contact.	EarthData
377.97	378.19	0.22	MUD	10	Coal/Mud/Clay	MUDSTONE: dark brown, carbonaceous traces and wisps, medium strength, sharp basal contact.	EarthData
378.19	378.23	0.04	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 20mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
378.23	378.44	0.21	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, coaly traces, medium strength, basal parting.	EarthData
378.44	378.5	0.06	MUD	10	Coal/Mud/Clay	MUDSTONE: brown, carbonaceous laminae and traces, medium strength, gradational basal contact.	EarthData
378.5	380.36	1.86	ZST	20	Silt	SILTSTONE: grey, sandstone laminae, sideritic pebbly clasts to bottom, medium strength, 12 fractures, basal parting.	EarthData
380.36	380.52	0.16	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 30mm, penetrating 80% of unit, 100% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
380.52	381.13	0.61	ZST	20	Silt	SILTSTONE: grey, sandy at top, carbonaceous wisps, carbonaceous bands at .36m, medium strength, 5 fractures, sharp basal contact.	EarthData
381.13	381.28	0.15	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, coaly laminae and traces, few carbonate filled cleats, medium strength, gradational basal contact.	EarthData
381.28	382.38	1.1	SST	40	Fine Sand	SANDSTONE: grey, fine grained, siltstone laminae, high strength, 5 fractures, basal parting.	EarthData
382.38	382.68	0.3	ZST	20	Silt	SILTSTONE: grey, carb mud band at top, carbonaceous wisps, medium strength, 3 fractures, basal parting.	EarthData
382.68	382.83	0.15	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown black, coaly traces, medium strength, basal parting.	EarthData
382.83	383.14	0.31	ZST	20	Silt	SILTSTONE: grey, low strength, 3 fractures, sharp irregular basal contact.	EarthData
383.14	383.35	0.21	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, coaly thick traces, medium strength, 1 fracture, sharp irregular basal contact.	EarthData
383.35	385.04	1.69	SST	30	Very Fine	SANDSTONE: grey, very fine grained to fine grained, siltstone	EarthData

					Sand	laminae, carbonaceous wisps, sideritic at bottom, high strength, 6 fractures, sharp irregular basal contact.	
385.04	385.58	0.54	MUD	10	Coal/Mud/Clay	MUDSTONE: brown grey, carbonaceous wisps, medium strength, 1 fracture, basal parting.	EarthData
385.58	385.8	0.22	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, few carbonaceous laminae, medium strength, gradational basal contact.	EarthData
385.8	385.99	0.19	MUD	10	Coal/Mud/Clay	MUDSTONE: brown grey, carbonaceous traces, , medium strength, 1 fracture, sharp irregular basal contact.	EarthData
385.99	386.44	0.45	ZST	20	Silt	SILTSTONE: grey, carbonaceous wisps, carb mud band at top, medium strength, 3 fractures, sharp basal contact.	EarthData
386.44	386.51	0.07	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 25mm, penetrating 90% of unit, 100% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
386.51	387.1	0.59	ZST	20	Silt	SILTSTONE: grey, sandstone laminae, medium strength, 6 fractures, basal parting.	EarthData
387.1	387.25	0.15	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 20mm, penetrating 100% of unit, 50% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
387.25	389.02	1.77	ZST	20	Silt	SILTSTONE: grey, medium strength, 8 fractures, sharp irregular basal contact.	EarthData
389.02	398.58	9.56	SST	60	Medium Sand	SANDSTONE: light grey, medium grained, finer grains at top, common carbonaceous laminae to bottom, sideritic thick bands at 7.77m and 9.07m, high strength, 11 fractures, sharp basal contact.	EarthData
398.58	398.63	0.05	ZST	20	Silt	SILTSTONE: grey brown, high strength, gradational basal contact.	EarthData
398.63	398.66	0.03	TUFF	10	Coal/Mud/Clay	TUFF: grey brown, occasional carbonaceous laminae, low strength.	EarthData
398.66	398.7	0.04	COAL	10	Coal/Mud/Clay	COAL Dull: .	EarthData
398.7	398.74	0.04	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark grey, tuffaceous, low strength.	EarthData
398.74	399.02	0.28	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional coal laminae, face cleat, average spacing 20mm, penetrating 50% of unit, 10% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
399.02	399.05	0.03	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark grey, tuffaceous, low strength.	EarthData
399.05	399.11	0.06	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 20mm, penetrating 60% of unit, 20% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 60% of unit, 70% carbonate filled, dips 90 degrees with azimuth 70 degrees to face cleat.	EarthData

399.11	400.85	1.74	ZST	20	Silt	SILTSTONE: grey, carbonaceous wisps, sandy at top, medium strength, 5 fractures, gradational basal contact.	EarthData
400.85	401.11	0.26	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, carbonaceous laminae and traces, medium strength, 1 fracture, basal parting.	EarthData
401.11	401.19	0.08	TUFF	10	Coal/Mud/Clay	TUFF: cream, medium strength, sharp basal contact.	EarthData
401.19	401.26	0.07	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, coaly traces, medium strength, gradational basal contact.	EarthData
401.26	401.38	0.12	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 40mm, penetrating 90% of unit, 90% carbonate filled, dips 90 degrees, butt cleat, average spacing 50mm, penetrating 40% of unit, 09% carbonate filled, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
401.38	401.58	0.2	ZST	20	Silt	SILTSTONE: grey, carbonaceous wisps, medium strength, basal parting.	EarthData
401.58	401.64	0.06	MUD	10	Coal/Mud/Clay	MUDSTONE: brown, carbonaceous traces, medium strength, sharp basal contact.	EarthData
401.64	401.84	0.2	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 40mm, penetrating 100% of unit, 100% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
401.84	409.71	7.87	ZST	20	Silt	SILTSTONE: grey, sandy at top, occasional sideritic clasts, few mudstone laminae, pyrite clasts at 1.2m, occasional carbonaceous thick traces to bottom, medium strength to high strength, 37 fractures, sharp basal contact.	EarthData
409.71	409.94	0.23	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, carbonaceous laminae and traces, medium strength, 1 fracture, gradational basal contact.	EarthData
409.94	410.01	0.07	TUFF	10	Coal/Mud/Clay	TUFF: white grey brown, carbonaceous wisps, medium strength, sharp basal contact.	EarthData
410.01	410.13	0.12	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 30mm, penetrating 100% of unit, 10% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
410.13	410.23	0.1	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, low strength.	EarthData
410.23	410.47	0.24	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 5mm, penetrating 40% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
410.47	410.49	0.02	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, very low strength to low strength.	EarthData

410.49	415.34	4.85	SST	30	Very Fine Sand	SANDSTONE: light grey, very fine grained to fine grained, siltstone laminae, light brown at top, occasional carbonaceous wisps, silty soft thin bed and carb mud band at 2.31m, high strength, 13 fractures, basal parting.	EarthData
415.34	415.45	0.11	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 15mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
415.45	415.56	0.11	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, low strength.	EarthData
415.56	415.85	0.29	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 20mm, penetrating 40% of unit, 20% carbonate filled, dips 90 degrees, butt cleat, average spacing 20mm, penetrating 40% of unit, 20% carbonate filled, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
415.85	415.89	0.04	TUFF	10	Coal/Mud/Clay	TUFF: buff to yellow brown, occasional carbonaceous wisps, low strength.	EarthData
415.89	416.46	0.57	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 5mm, penetrating 40% of unit, 40% carbonate filled, dips 90 degrees, butt cleat, average spacing 20mm, penetrating 40% of unit, 40% carbonate filled, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
416.46	416.53	0.07	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, medium strength, 1 fracture, sharp basal contact.	EarthData
416.53	416.67	0.14	MUD	10	Coal/Mud/Clay	MUDSTONE: brown, sandstone band in middle, medium strength, sharp basal contact.	EarthData
416.67	416.74	0.07	TUFF	10	Coal/Mud/Clay	TUFF: brown cream, carbonaceous wisps, low strength, sharp irregular basal contact.	EarthData
416.74	416.81	0.07	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, tuffaceous laminae, medium strength, gradational basal contact.	EarthData
416.81	416.91	0.1	TUFF	10	Coal/Mud/Clay	TUFF: grey cream, low strength, sharp basal contact.	EarthData
416.91	417	0.09	MUD	10	Coal/Mud/Clay	MUDSTONE: brown, medium strength, 1 fracture, sharp irregular basal contact.	EarthData
417	417.05	0.05	TUFF	10	Coal/Mud/Clay	TUFF: brown cream, low strength, sharp basal contact.	EarthData
417.05	417.35	0.3	MUD	10	Coal/Mud/Clay	MUDSTONE: brown to dark brown, tuffaceous band in middle and bottom, medium strength, 1 fracture, gradational basal contact.	EarthData
417.35	418.2	0.85	ZST	20	Silt	SILTSTONE: grey, carbonaceous laminae and bands, medium	EarthData

						strength, 4 fractures, sharp basal contact.	
418.2	418.32	0.12	NIL		No sample	CORE LOSS: .	EarthData
418.32	418.55	0.23	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 40mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, butt cleat, average spacing 50mm, penetrating 50% of unit, no visible mineralisation, dips 90 degrees with azimuth 80 degrees to face cleat.	EarthData
418.55	418.61	0.06	TUFF	10	Coal/Mud/Clay	TUFF: grey brown, occasional carbonaceous traces, low strength.	EarthData
418.61	418.83	0.22	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony coal, face cleat, average spacing 20mm, penetrating 30% of unit, 10% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
418.83	418.87	0.04	TUFF	10	Coal/Mud/Clay	TUFF: grey brown, occasional carbonaceous and coal traces, low strength.	EarthData
418.87	419.16	0.29	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 20mm, penetrating 50% of unit, 10% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 50% of unit, 10% carbonate filled, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
419.16	422.26	3.1	ZST	20	Silt	SILTSTONE: grey, sandstone laminae and bands at top, few carbonaceous wisps, medium strength, 17 fractures, gradational basal contact.	EarthData
422.26	427.19	4.93	SST	30	Very Fine Sand	SANDSTONE: grey, very fine grained to fine grained, siltstone laminae, high strength, 15 fractures, gradational basal contact.	EarthData
427.19	430.29	3.1	SST	50	Fine-Medium Sand	SANDSTONE: light grey, fine to medium grained, occasional carbonaceous laminae, high strength, 5 fractures, sharp basal contact.	EarthData
430.29	431.27	0.98	ZST	20	Silt	SILTSTONE: grey, high strength, 8 fractures, sharp basal contact.	EarthData
431.27	433.41	2.14	SST	60	Medium Sand	SANDSTONE: light grey, medium grained, siltstone laminae at top, occasional carbonaceous laminae, high strength, 6 fractures, sharp basal contact.	EarthData
433.41	436.58	3.17	SST	30	Very Fine Sand	SANDSTONE: grey, very fine grained to fine grained, common siltstone laminae, medium grained at bottom, high strength, 11 fractures, gradational basal contact.	EarthData
436.58	439.41	2.83	SST	60	Medium Sand	SANDSTONE: grey, medium grained, carbonaceous laminae, carbonaceous tick laminae to bottom, high strength, 5 fractures, sharp irregular basal contact.	EarthData

439.41	441	1.59	ZST	20	Silt	SILTSTONE: grey, sideritic bands at .23m and .44m, sandstone laminae to bottom, high strength, 8 fractures, gradational basal contact.	EarthData
441	445.65	4.65	SST	50	Fine-Medium Sand	SANDSTONE: light grey, fine to medium grained, carbonaceous laminae to bottom, high strength, 15 fractures, sharp basal contact.	EarthData
445.65	449.8	4.15	SST	30	Very Fine Sand	SANDSTONE: grey, very fine grained to fine grained, occasional siltstone laminae, high strength, 12 fractures, basal parting.	EarthData
449.8	450.17	0.37	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 20mm, penetrating 40% of unit, 20% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
450.17	450.21	0.04	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, low strength.	EarthData
450.21	450.47	0.26	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, occasional tuffaceous laminae, medium strength, 1 fracture, gradational basal contact.	EarthData
450.47	450.54	0.07	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark grey, tending to stony coal, low strength.	EarthData
450.54	450.82	0.28	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 5mm, penetrating 20% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
450.82	450.89	0.07	TUFF	10	Coal/Mud/Clay	TUFF: grey brown, occasional carbonaceous laminae, low strength.	EarthData
450.89	451.22	0.33	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, occasional coal wisps, low strength.	EarthData
451.22	451.47	0.25	COAL	10	Coal/Mud/Clay	COAL Dull: occasional stony traces, face cleat, average spacing 30mm, penetrating 60% of unit, 10% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
451.47	451.49	0.02	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, low strength.	EarthData
451.49	451.57	0.08	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: tending to stony coal, face cleat, average spacing 15mm, penetrating 40% of unit, 10% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
451.57	451.62	0.05	COAL	10	Coal/Mud/Clay	COAL Dull: occasional stony traces.	EarthData
451.62	451.68	0.06	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 15mm, penetrating 60% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
451.68	451.72	0.04	TUFF	10	Coal/Mud/Clay	TUFF: grey brown, occasional carbonaceous traces and occasional coal laminae, low strength.	EarthData
451.72	451.86	0.14	COAL	10	Coal/Mud/Clay	COAL Dull: .	EarthData
451.86	451.92	0.06	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark brown, tending to stony coal, low strength.	EarthData

451.92	451.94	0.02	COAL	10	Coal/Mud/Clay	COAL Dull: .	EarthData
451.94	451.95	0.01	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark grey, low strength.	EarthData
451.95	452.04	0.09	COAL	10	Coal/Mud/Clay	COAL Dull: .	EarthData
452.04	452.06	0.02	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark grey, occasional coal wisps, low strength.	EarthData
452.06	452.54	0.48	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 5mm, penetrating 40% of unit, 10% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
452.54	453.44	0.9	SST	40	Fine Sand	SANDSTONE: grey, fine grained, carbonaceous traces, high strength, 2 fractures, sharp basal contact.	EarthData
453.44	453.52	0.08	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 10mm, penetrating 100% of unit, 90% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
453.52	458.1	4.58	SST	30	Very Fine Sand	SANDSTONE: grey, very fine grained to fine grained, common siltstone laminae, occasional carbonaceous wisps, brown in colour to bottom, high strength, 17 fractures, sharp basal contact.	EarthData
458.1	458.64	0.54	ZST	20	Silt	SILTSTONE: grey, dark grey at bottom, , medium strength, 5 fractures, sharp irregular basal contact.	EarthData
458.64	458.91	0.27	ZST	20	Silt	SILTSTONE: cream grey, low strength, gradational basal contact.	EarthData
458.91	459.59	0.68	ZST	20	Silt	SILTSTONE: grey, occasional sandstone laminae, medium strength, 2 fractures, gradational basal contact.	EarthData
459.59	459.75	0.16	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, mudstone splotches, medium strength, 1 fracture, gradational basal contact.	EarthData
459.75	459.81	0.06	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 20mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
459.81	459.82	0.01	TUFF	10	Coal/Mud/Clay	TUFF: grey brown, occasional coal traces and occasional carbonaceous traces, low strength.	EarthData
459.82	459.91	0.09	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 5mm, penetrating 20% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
459.91	459.94	0.03	TUFF	10	Coal/Mud/Clay	TUFF: off white, occasional carbonaceous traces, low strength.	EarthData
459.94	459.95	0.01	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 5mm, penetrating 40% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
459.95	459.96	0.01	TUFF	10	Coal/Mud/Clay	TUFF: off white, occasional carbonaceous traces, low strength.	EarthData
459.96	460.10	0.14	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 5mm, penetrating 20% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData

460.10	460.13	0.03	TUFF	10	Coal/Mud/Clay	TUFF: off white, occasional carbonaceous traces, low strength.	EarthData
460.13	460.42	0.29	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 5mm, penetrating 50% of unit, 100% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
460.42	460.44	0.02	TUFF	10	Coal/Mud/Clay	TUFF: grey brown, occasional carbonaceous traces, low strength.	EarthData
460.44	460.54	0.1	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 20mm, penetrating 70% of unit, 100% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 70% of unit, 70% carbonate filled, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
460.54	460.55	0.01	TUFF	10	Coal/Mud/Clay	TUFF: grey brown, occasional carbonaceous laminae, low strength.	EarthData
460.55	460.56	0.01	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 5mm, penetrating 40% of unit, 10% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
460.56	460.65	0.09	COAL	10	Coal/Mud/Clay	COAL Stony: tending to carbonaceous mudstone.	EarthData
460.65	460.82	0.17	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 5mm, penetrating 40% of unit, 10% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 40% of unit, 10% carbonate filled, dips 90 degrees with azimuth 70 degrees to face cleat.	EarthData
460.82	461.11	0.29	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, common tuffaceous bands, medium strength, 1 fracture, sharp basal contact.	EarthData
461.11	461.15	0.04	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 20mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
461.15	461.18	0.03	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, medium strength, gradational basal contact.	EarthData
461.18	461.22	0.04	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 40mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
461.22	461.24	0.02	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, medium strength, sharp basal contact.	EarthData
461.24	461.25	0.01	TUFF	10	Coal/Mud/Clay	TUFF: white cream, medium strength, sharp irregular basal contact.	EarthData
461.25	461.31	0.06	COAL	10	Coal/Mud/Clay	COAL Dull banded: face cleat, average spacing 30mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
461.31	461.32	0.01	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown black, medium strength, sharp basal contact.	EarthData

461.32	461.33	0.01	COAL	10	Coal/Mud/Clay	COAL Dull banded: face cleat, average spacing 10mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, butt cleat, average spacing 10mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
461.33	461.66	0.33	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony laminae, face cleat, average spacing 5mm, penetrating 50% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
461.66	461.68	0.02	TUFF	10	Coal/Mud/Clay	TUFF: light grey, occasional carbonaceous laminae, low strength.	EarthData
461.68	461.94	0.26	COAL	10	Coal/Mud/Clay	COAL Dull banded: occasional stony laminae, face cleat, average spacing 5mm, penetrating 50% of unit, 10% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
461.94	461.95	0.01	TUFF	10	Coal/Mud/Clay	TUFF: light grey, occasional carbonaceous laminae, low strength.	EarthData
461.95	462.17	0.22	COAL	10	Coal/Mud/Clay	COAL Dull banded: occasional stony laminae, face cleat, average spacing 5mm, penetrating 60% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
462.17	462.22	0.05	TUFF	10	Coal/Mud/Clay	TUFF: grey brown to dark grey, occasional coal and carbonaceous wisps, low strength.	EarthData
462.22	462.35	0.13	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 10mm, penetrating 30% of unit, 40% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 30% of unit, 40% carbonate filled, dips 90 degrees with azimuth 70 degrees to face cleat.	EarthData
462.35	462.41	0.06	COAL	10	Coal/Mud/Clay	COAL Dull and bright: face cleat, average spacing 5mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
462.41	462.44	0.03	TUFF	10	Coal/Mud/Clay	TUFF: brown cream, medium strength, sharp basal contact.	EarthData
462.44	462.51	0.07	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 30mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
462.51	462.55	0.04	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, medium strength, gradational basal contact.	EarthData
462.55	462.68	0.13	TUFF	10	Coal/Mud/Clay	TUFF: grey cream brown, siltstone laminae, medium strength, gradational basal contact.	EarthData
462.68	462.92	0.24	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 25mm, penetrating 100% of unit, 90% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData

462.92	463.08	0.16	TUFF	10	Coal/Mud/Clay	TUFF: light brown to cream, silty at top, medium strength to low strength, sharp irregular basal contact.	EarthData
463.08	463.45	0.37	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, coaly traces, tuffaceous band in middle, medium strength, gradational basal contact.	EarthData
463.45	463.49	0.04	TUFF	10	Coal/Mud/Clay	TUFF: white cream, medium strength, sharp irregular basal contact.	EarthData
463.49	463.63	0.14	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 40mm, penetrating 100% of unit, 90% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
463.63	463.71	0.08	TUFF	10	Coal/Mud/Clay	TUFF: dark cream, carb mud band in middle, medium strength, sharp basal contact.	EarthData
463.71	463.76	0.05	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 30mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
463.76	463.82	0.06	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, medium strength, basal parting.	EarthData
463.82	463.94	0.12	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 40mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
463.94	464.24	0.3	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown to dark brown, coaly bands at top, tuffaceous thin bed at bottom, medium strength, sharp irregular basal contact.	EarthData
464.24	464.39	0.15	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 50mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
464.39	464.53	0.14	TUFF	10	Coal/Mud/Clay	TUFF: brown cream, carbonaceous traces, medium strength, sharp irregular basal contact.	EarthData
464.53	464.58	0.05	MUD	10	Coal/Mud/Clay	MUDSTONE: brown, tuffaceous splotches, medium strength, sharp basal contact.	EarthData
464.58	464.72	0.14	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 20mm, penetrating 90% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
464.72	464.74	0.02	TUFF	10	Coal/Mud/Clay	TUFF: dark cream, carbonaceous wisps, medium strength, sharp basal contact.	EarthData
464.74	464.76	0.02	NIL		No sample	CORE LOSS: .	EarthData
464.76	464.77	0.01	TUFF	10	Coal/Mud/Clay	TUFF: off white, occasional carbonaceous traces, low strength.	EarthData
464.77	465.04	0.27	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 5mm, penetrating 30% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
465.04	465.20	0.16	COAL	10	Coal/Mud/Clay	COAL Stony: face cleat, average spacing 5mm, penetrating 30% of	EarthData

						unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	
465.20	465.67	0.47	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony laminae, face cleat, average spacing 5mm, penetrating 40% of unit, 20% carbonate filled, dips 90 degrees, butt cleat, average spacing 5mm, penetrating 40% of unit, 20% carbonate filled, dips 90 degrees with azimuth 90 degrees to face cleat.	EarthData
465.67	465.72	0.05	TUFF	10	Coal/Mud/Clay	TUFF: light grey, occasional carbonaceous laminae, low strength.	EarthData
465.72	465.99	0.27	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 25mm, penetrating 90% of unit, 100% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
465.99	466.16	0.17	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 20mm, penetrating 50% of unit, 100% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
466.16	466.20	0.04	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: brown, tuffaceous, low strength.	EarthData
466.20	467.03	0.83	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 5mm, penetrating 50% of unit, 30% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 40% of unit, 20% carbonate filled, dips 90 degrees with azimuth 60 degrees to face cleat.	EarthData
467.03	468.10	1.07	SST	40	Fine Sand	SANDSTONE: light grey, fine grained, silty at top, high strength, 3 fractures, gradational basal contact.	EarthData
468.10	468.24	0.14	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 20mm, penetrating 90% of unit, 50% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
468.24	468.76	0.52	SST	40	Fine Sand	SANDSTONE: grey, fine grained, silty at top and bottom, high strength, 3 fractures, gradational basal contact.	EarthData
468.76	468.88	0.12	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, medium strength, 1 fracture, sharp basal contact.	EarthData
468.88	468.92	0.04	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 10mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
468.92	468.96	0.04	TUFF	10	Coal/Mud/Clay	TUFF: light brown, carbonaceous laminae, medium strength, gradational basal contact.	EarthData
468.96	469.05	0.09	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 20mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, butt cleat, average spacing 40mm, penetrating 100% of unit, no visible	EarthData

						mineralisation, dips 90 degrees with azimuth 80 degrees to face cleat.	
469.05	469.56	0.51	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony laminae, face cleat, average spacing 3mm, penetrating 80% of unit, 60% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
469.56	469.69	0.13	ZST	20	Silt	SILTSTONE: grey, medium strength, 1 fracture, gradational basal contact.	EarthData
469.69	469.73	0.04	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 15mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
469.73	469.80	0.07	ZST	20	Silt	SILTSTONE: grey, carbonaceous laminae and traces, medium strength, basal parting.	EarthData
469.80	469.90	0.1	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 15mm, penetrating 100% of unit, 90% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
469.90	470.97	1.07	ZST	20	Silt	SILTSTONE: grey, sandy at top, high strength, 6 fractures, basal parting.	EarthData
470.97	472.72	1.75	SST	40	Fine Sand	SANDSTONE: grey brown, fine grained, occasional siltstone laminae, high strength, 6 fractures, gradational basal contact.	EarthData
472.72	473.13	0.41	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 25mm, penetrating 90% of unit, 80% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
473.13	473.20	0.07	TUFF	10	Coal/Mud/Clay	TUFF: brown cream, carbonaceous traces, medium strength, basal parting.	EarthData
473.20	473.34	0.14	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: black brown, medium strength, gradational basal contact.	EarthData
473.34	478.94	5.6	SST	50	Fine-Medium Sand	SANDSTONE: grey, fine to medium grained, siltstone laminae to top, carbonaceous traces at top, medium grained to bottom, occasional carbonaceous laminae at bottom, high strength, 14 fractures, sharp basal contact.	EarthData
478.94	479.23	0.29	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 10mm, penetrating 60% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
479.23	479.26	0.03	TUFF	10	Coal/Mud/Clay	TUFF: light grey, occasional carbonaceous laminae, low strength.	EarthData
479.26	479.49	0.23	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 5mm, penetrating 50% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData

479.49	479.68	0.19	SST	40	Fine Sand	SANDSTONE: grey, fine grained, siltstone laminae, high strength, 1 fracture, sharp basal contact.	EarthData
479.68	479.69	0.01	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 40mm, penetrating 100% of unit, no visible mineralisation, dips 90 degrees, no visible butt cleat.	EarthData
479.69	479.78	0.09	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 30mm, penetrating 40% of unit, 100% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
479.78	479.83	0.05	TUFF	10	Coal/Mud/Clay	TUFF: buff, occasional carbonaceous traces, low strength.	EarthData
479.83	479.89	0.06	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 30mm, penetrating 30% of unit, 30% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
479.89	479.96	0.07	CARB	10	Coal/Mud/Clay	CARB MUDSTONE: dark grey, low strength.	EarthData
479.96	480.37	0.41	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: occasional stony traces, face cleat, average spacing 20mm, penetrating 40% of unit, 40% carbonate filled, dips 90 degrees, butt cleat, average spacing 30mm, penetrating 40% of unit, 40% carbonate filled, dips 90 degrees with azimuth 70 degrees to face cleat.	EarthData
480.37	480.48	0.11	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 20mm, penetrating 100% of unit, 90% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
480.48	487.52	7.04	ZST	20	Silt	SILTSTONE: grey, sandstone laminae and bands throughout, carbonaceous traces at top, medium strength to high strength, 21 fractures, basal parting.	EarthData
487.52	488.48	0.96	SST	60	Medium Sand	SANDSTONE: light grey, medium grained, occasional carbonaceous thick traces, sideritic band at .80m, high strength, sharp basal contact.	EarthData
488.48	490.11	1.63	SST	30	Very Fine Sand	SANDSTONE: grey, very fine grained to fine grained, high strength, 1 fracture, sharp basal contact.	EarthData
490.11	514.75	24.64	SST	70	Medium-Coarse Sand	SANDSTONE: light grey, medium to coarse grained, few carbonaceous laminae, siltstone and sideritic clasts at top, sideritic and siltstone clasts from middle to bottom, conglomerate medium bed at bottom, high strength, 17 fractures.	EarthData
514.75	514.83	0.08	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 20mm, penetrating 100% of unit, 100% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
514.83	516.28	1.45	ZST	20	Silt	SILTSTONE: grey, brown in colour at top and bottom, few carbonaceous traces, high strength, 6 fractures, sharp basal contact.	EarthData

516.28	523.00	6.72	SST	40	Fine Sand	SANDSTONE: grey, fine grained, occasional siltstone thin beds and laminae, high strength, 10 fractures, sharp basal contact.	EarthData
523.00	539.57	16.57	SST	30	Very Fine Sand	SANDSTONE: grey, very fine grained to fine grained, common siltstone laminae and thin beds, occasional carbonaceous wisps and traces, few mudstone bands, occasional light grey medium grained sandstone thin beds, sandy at bottom, high strength, 35 fractures, sharp basal contact.	EarthData
539.57	539.81	0.24	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 15mm, penetrating 100% of unit, 100% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
539.81	545.11	5.3	SST	30	Very Fine Sand	SANDSTONE: grey, very fine grained to fine grained, common siltstone laminae and thin beds,, high strength, 11 fractures, sharp basal contact.	EarthData
545.11	545.26	0.15	COAL	10	Coal/Mud/Clay	COAL Dull: face cleat, average spacing 5mm, penetrating 90% of unit, 90% carbonate filled, dips 90 degrees, butt cleat, average spacing 20mm, penetrating 80% of unit, 90% carbonate filled, dips 90 degrees with azimuth 80 degrees to face cleat.	EarthData
545.26	561.34	16.08	SST	30	Very Fine Sand	SANDSTONE: grey, very fine grained to fine grained, common siltstone laminae, coaly band at 1.01m and 3.5m, sideritic band at 2.7m, carb mud band with at 0.77m, high strength, 30 fractures, basal parting.	EarthData
561.34	561.55	0.21	COAL	10	Coal/Mud/Clay	COAL Dull minor bright: face cleat, average spacing 10mm, penetrating 80% of unit, 90% carbonate filled, dips 90 degrees, no visible butt cleat.	EarthData
561.55	564.43	2.88	SST	30	Very Fine Sand	SANDSTONE: grey , very fine grained to fine grained, common siltstone laminae and thin beds, occasional light grey medium grained sandstone thin beds, high strength, 4 fractures.	EarthData

APPENDIX 2 ROP LOG

Run	From	To	Drilled Length	Minutes	Drilling Rate (minutes/m)
0	0	6	6	20	3.333333
0	6	9.8	3.8	8	2.105263
0	9.8	15.8	6	21	3.5
0	15.8	21.8	6	24	4
0	21.8	27.8	6	19	3.166667
0	27.8	33.8	6	22	3.666667
0	33.8	39.8	6	25	4.166667
0	39.8	45.8	6	19	3.166667
0	45.8	51.8	6	19	3.166667
0	51.8	57.8	6	15	2.5
0	57.8	63.8	6	15	2.5
0	63.8	69.8	6	16	2.666667
0	69.8	75.8	6	17	2.833333
0	75.8	81.8	6	16	2.666667
0	81.8	87.8	6	18	3
0	87.8	93.8	6	18	3
0	93.8	99.8	6	17	2.833333
0	99.8	105.8	6	17	2.833333
0	105.8	111.8	6	16	2.666667
0	111.8	117.8	6	15	2.5
0	117.8	123.8	6	20	3.333333
0	123.8	129.8	6	13	2.166667
0	129.8	135.8	6	14	2.333333
0	135.8	141.8	6	20	3.333333
0	141.8	143.5	1.7	6	3.529412
0	143.5	144.14	0.64	3	4.6875
1	144.14	147.14	3	30	10
2	147.14	150.14	3	38	12.66667
3	150.14	153.14	3	37	12.33333
4	153.14	156.14	3	37	12.33333
5	156.14	159.14	3	32	10.66667
6	159.14	162.14	3	46	15.33333
7	162.14	165.14	3	52	17.33333
8	165.14	168.14	3	45	15
9	168.14	171.14	3	87	29
10	171.14	174.14	3	44	14.66667
11	174.14	177.14	3	45	15
12	177.14	180.14	3	73	24.33333
13	180.14	182.84	2.7	107	39.62963
14	182.84	186.19	3.35	75	22.38806
15	186.19	191.96	5.77	89	15.42461
16	191.96	198.06	6.1	87	14.2623
17	198.06	204.19	6.1	86	14.09836
18	204.19	210.19	6	83	13.83333
19	210.19	216.19	6	86	14.33333
20	216.19	222.09	5.9	65	11.01695
21	222.09	228.04	5.95	74	12.43697
22	228.04	234.19	6.15	68	11.05691
23	234.19	240.19	6	56	9.333333
24	240.19	242.44	2.25	28	12.44444
25	242.44	246.19	3.75	48	12.8
26	246.19	252.19	6	69	11.5
27	252.19	258.19	6	48	8
28	258.19	264.19	6	54	9

29	264.19	270.19	6	42	7
30	270.19	276.19	6	56	9.333333
31	276.19	282.19	6	57	9.5
32	282.19	288.19	6	58	9.666667
33	288.19	291.19	3	24	8
34	291.19	294.19	3	30	10
35	294.19	300.19	6	57	9.5
36	300.19	306.19	6	68	11.33333
37	306.19	312.19	6	74	12.33333
38	312.19	318.09	5.9	88	14.91525
39	318.09	324.09	6	68	11.33333
40	324.09	330.19	6.1	64	10.4918
41	330.19	334.29	4.1	38	9.268293
42	334.29	339.19	4.9	56	11.42857
43	339.19	345.09	5.9	72	12.20339
44	345.09	351.19	6.1	61	10
45	351.19	357.19	6	63	10.5
46	357.19	363.19	6	104	17.33333
47	363.19	369.19	6	65	10.83333
48	369.19	375.19	6	92	15.33333
49	375.19	381.19	6	63	10.5
50	381.19	387.19	6	107	17.83333
51	387.19	393.19	6	87	14.5
52	393.19	399.19	6	68	11.33333
53	399.19	405.19	6	65	10.83333
54	405.19	411.19	6	77	12.83333
55	411.19	417.19	6	69	11.5
56	417.19	418.59	1.4	18	12.85714
57	418.19	423.19	5	58	11.6
58	423.19	429.19	6	59	9.833333
59	429.19	432.99	3.8	55	14.47368
60	432.99	434.89	1.9	36	18.94737
61	434.89	438.19	3.3	39	11.81818
62	438.19	444.19	6	83	13.83333
63	444.19	450.19	6	67	11.16667
64	450.19	456.19	6	74	12.33333
65	456.19	462.19	6	62	10.33333
66	462.19	468.19	6	75	12.5
67	468.19	474.19	6	70	11.66667
68	474.19	480.19	6	68	11.33333
69	480.19	480.79	0.6	18	30
70	480.79	486.19	5.4	97	17.96296
71	486.19	492.19	6	75	12.5
72	492.19	498.19	6	46	7.666667
73	498.19	499.99	1.8	36	20
74	499.99	504.19	4.2	66	15.71429
75	504.19	510.19	6	69	11.5
76	510.19	516.19	6	113	18.83333
77	516.19	522.19	6	116	19.33333
78	522.19	525.19	3	52	17.33333
79	525.19	531.19	6	123	20.5
80	531.19	537.19	6	112	18.66667
81	537.19	543.19	6	140	23.33333
82	543.19	549.19	6	123	20.5

APPENDIX 3 MUD GAS READINGS

Depth	Gas Units
204.19	0
204.67	0
205.15	0
205.62	0
206.1	0
206.58	0
207.06	0
207.54	0
208.02	0
208.49	0
208.97	0
209.45	0
209.93	0
210.19	0
210.68	0
211.17	0
211.66	0
212.14	0
212.63	0
213.12	0
213.61	0
214.1	0
214.59	0
215.07	0
215.56	0
216.05	0
216.19	0
216.69	0
217.19	0
217.69	0
218.19	0
218.69	0
219.19	0
219.68	0
220.18	0
220.68	3.91
221.18	9.59
221.68	6.94
222	0
241	0
242.44	0
242.91	0
243.38	0
243.85	0
244.31	0
244.78	0
245.25	0
245.72	0
246.19	0
246.67	0
247.15	0
247.62	0
248.1	0
248.58	0

249.06	0
249.54	0
250.02	6.73
250.49	6.18
250.97	5.73
251.45	5.3
251.93	5.12
252.19	0.75
252.69	7.09
253.19	4.81
253.69	3.84
254.19	7.37
254.69	9.16
255.19	8.16
255.69	7.63
256.19	9.16
256.69	5.53
257.19	4.62
257.69	8.69
258.19	11.72
258.69	7.53
259.19	4.22
259.69	8.44
260.19	7.94
260.69	8.11
261.19	9.61
261.69	7.72
262.19	5.11
262.69	6.58
263.19	10
263.69	10.25
264	0
290	0
291.19	13.28
291.69	9
292.19	5.53
292.69	4.72
293.19	4.92
293.69	6.22
294.19	0
294.66	0
295.14	0
295.61	0
296.08	0
296.56	0
297.03	0
297.51	0
297.98	3.58
298.45	8.56
298.93	5.86
299.4	6.75
299.87	7.33
300.19	3.61
300.68	8.64
301.16	10.64
301.65	7.84

302.13	10.2
302.62	12.55
303.1	16.68
303.59	23.8
304.07	20.18
304.56	7.82
305.04	8.48
305.53	9.68
306.01	9.69
306.19	17.44
306.68	15.35
307.16	4.54
307.65	6.71
308.14	7.27
308.62	7.65
309.11	9.73
309.6	4.75
310.08	5.17
310.57	7.75
311.05	8.75
311.54	8.58
312.03	8.88
313	0
333	0
334.29	16.36
334.78	10.75
335.27	10.69
335.76	15.67
336.25	15.08
336.74	12.69
337.23	9.64
337.72	7.39
338.21	8.25
338.7	6.67
339.19	19.42
339.68	11.94
340.17	4.02
340.66	4.56
341.16	12.94
341.65	18.08
342.14	19.52
342.63	10.23
343.12	11.19
343.61	10.1
344.11	13.5
344.6	12.88
345.09	45.11
345.54	27.17
345.99	31.89
346.44	35.44
346.89	27.17
347.34	10.72
347.79	24.78
348.24	21.67
348.69	19.67
349.14	21.67

349.59	22.94
350.04	19.17
350.49	8.03
350.94	7
351.19	26.6
351.67	26.4
352.14	40.77
352.62	20.52
353.09	12.6
353.57	21.8
354.05	22.5
354.52	26.1
355	33.32
355.48	22.6
355.95	8.85
356.43	11.5
356.9	14.21
357.19	29.51
357.68	36.35
358.17	30.03
358.66	26.75
359.15	24.38
359.64	23.29
360.13	13.43
360.62	8.69
361.11	8.51
361.6	7.34
362.09	7.96
362.58	7.82
363.07	5.44
363.19	13.12
363.65	15.82
364.11	28.17
364.57	27.1
365.04	11.93
365.5	19.82
365.96	26.05
366.42	26.13
366.88	25.48
367.34	24.95
367.81	19.92
368.27	8.18
368.73	7.8
369.19	0
369.68	0
370.17	0
370.66	0
371.15	0
371.64	0
372.12	4.12
372.61	10.13
373.1	9.47
373.59	9.25
374.08	9.45
374.57	9.58
375.06	13.19

375.19	18.05
375.67	23.58
376.14	26.42
376.62	13.73
377.09	7.93
377.57	13.73
378.05	19.9
378.52	19.53
379	24.78
379.48	22.4
379.95	16.33
380.43	7
380.9	6.25
381.19	6.32
381.67	11.38
382.14	14.19
382.62	11.59
383.1	6.85
383.57	7.46
384.05	9.01
384.53	11.49
385	11.62
385.48	13.22
385.96	19.28
386.43	22.34
386.91	24.98
387.19	35.41
387.67	34.05
388.16	28.7
388.64	13.23
389.12	23.37
389.6	26.34
390.09	27.04
390.57	28.2
391.05	13.04
391.53	9.36
392.02	11.55
392.5	13.43
392.98	17.12
393.19	22.43
393.68	27.66
394.16	33.43
394.65	27.5
395.13	15.64
395.62	18.39
396.1	14.61
396.59	13.14
397.07	13.7
397.56	16.95
398.04	14.57
398.53	8.89
399.01	9.94
399.19	13.92
399.65	16.32
400.11	25.02
400.57	21.3

401.04	9.17
401.5	9.78
401.96	16.45
402.42	16.42
402.88	16.8
403.34	20.55
403.81	28.6
404.27	20.9
404.73	10
411.19	41.75
411.65	42.31
412.11	31.81
412.57	16.31
413.04	11.19
413.5	11.81
413.96	14.37
414.42	17.25
414.88	19.06
415.34	22.38
415.81	26.38
416.27	27.19
416.73	22.12
417.19	61.13
417.66	47.79
418.12	45.31
418.19	44.57
418.66	64.55
419.14	49.34
419.61	19.57
420.09	13.66
420.56	10.27
421.03	34.55
421.51	35.32
421.98	37.27
422.46	15.34
422.93	20.54
423.19	52.44
423.65	64.36
424.11	73.5
424.56	41.78
425.02	16.25
425.48	11.92
425.94	10.36
426.39	59.89
426.85	49.64
427.31	22.17
427.77	22.56
428.22	20.42
428.68	9.72
429.14	9.5
429.19	55.81
429.65	44.06
430.11	42.88
430.57	51.13
431.03	79.69
431.49	89.81

431.95	77.38
432.41	78.5
432.87	66
432.99	0
433.43	0
433.88	0
434.32	6.25
434.76	14.25
434.89	38.34
435.36	15.77
435.82	19.68
436.29	16.89
436.75	9.86
437.22	10.07
437.68	20.91
438.15	16.25
438.19	12.69
438.66	18.62
439.13	15.54
439.6	6.83
440.07	5.17
440.54	9.88
441.01	13.9
441.48	15.6
441.95	16.54
442.42	16.52
442.89	34.94
443.36	28.75
443.83	25.15
444.19	21.02
444.68	26.7
445.18	22.84
445.67	19.84
446.16	9.18
446.65	4.86
447.15	5.93
447.64	17.2
448.13	20.73
448.62	19.75
449.12	36.61
449.61	15.7
450.1	14
450.19	53.75
450.68	44
451.16	50.15
451.65	16.6
452.14	5.21
452.62	4.9
453.11	12.33
453.6	18.27
454.08	26.4
454.57	15.75
455.05	18.25
455.54	36.25
456.03	53.94
456.19	22.65

456.67	30.17
457.16	31.32
457.64	54.8
458.13	59.65
458.61	19.6
459.09	13.98
459.58	21.6
460.06	32.05
460.54	38.98
461.03	50.45
461.51	42.08
462	14.12
462.19	7.71
462.65	6.43
463.1	6.75
463.56	9.29
464.02	8.39
464.47	10.11
464.93	12.29
465.39	19.57
465.84	28.79
466.3	36.57
466.76	43.82
467.21	37.25
467.67	28.54
468.12	27.25
468.19	31.43
468.66	21.36
469.13	26.32
469.6	28.64
470.08	40.48
470.55	35.68
471.02	13.34
471.49	13.77
471.96	23.68
472.43	36.98
472.9	44.73
473.38	42.84
473.85	19.75
474.19	53.5
474.68	39.07
475.16	46.25
475.65	47.64
476.13	52.05
476.62	61.14
477.1	52.95
477.59	33.77
478.07	27
478.56	49.07
479.04	59.41
479.53	62.41
480.01	60.75
480.19	40.12
480.67	55.61
480.79	23.69
481.26	8.56

481.74	12.56
482.21	30.09
482.68	12.4
483.16	15.97
483.63	36
484.1	39.63
484.58	18.12
485.05	23.78
485.52	39.04
486	49.86
486.19	51.31
486.67	49.29
487.15	44.9
487.63	36.77
488.11	31.31
488.59	35.83
489.07	25.48
489.55	13.88
490.03	6.67
490.51	11.98
490.99	23.85
491.47	32.5
491.95	35.17
492.19	14.82
492.65	13.86
493.1	14.86
493.56	16.71
494.02	21.39
494.47	23.5
494.93	28.71
495.39	38.46
495.84	40.61
496.3	40.21
496.76	34.96
497.21	25.82
497.67	23.18
498.12	24.25
499.99	9.47
500.47	22.9
500.94	25.67
501.42	23.75
501.9	29.6
502.38	36.78
502.85	35.03
503.33	31.48
503.81	25.65
504.19	13.41
504.67	13
505.15	12.27
505.62	15.09
506.1	14.5
506.58	13.7
507.06	23.14
507.54	31.27
508.02	24.93
508.49	17.48

508.97	18.7
509.45	23.45
509.93	25
510.19	14.47
510.67	11.58
511.15	11.62
511.62	10.32
512.1	17.86
512.58	9.69
513.06	9.08
513.54	14.26
514.01	18.26
514.49	21.57
514.97	18.31
515.45	27.88
515.92	21.05
516.19	24.12
516.68	25.43
517.17	26.66
517.66	21.26
518.16	26.55
518.65	12.63
519.14	14.28
519.63	19.64
520.12	25.76
520.61	20.63
521.1	26.96
521.6	28.07
522.09	27.31
522.19	33.93
522.68	27.99
523.17	11.79
523.66	21.04
524.15	21.38
524.64	17.68
525.13	13.5
525.19	17.86
525.68	13.73
526.17	16.83
526.65	13.46
527.14	8.57
527.63	9.65
528.12	7.85
528.6	9.79
529.09	6.21
529.58	9.45
530.07	15.99
530.56	13.92
531.04	6.63
531.19	16.92
531.67	13.85
532.15	6.83
532.64	6
533.12	11.5
533.6	11.51
534.08	7.47

534.56	9.56
535.05	13.58
535.53	14.87
536.01	12.71
536.49	7.35
536.98	10.09
537.19	8.89
537.68	7.99
538.18	12.28
538.67	18.12
539.16	17.1
539.65	9.46
540.15	12.8
540.64	17.68
541.13	13.74
541.63	8.28
542.12	16.76
542.61	14.78
543.1	14.88
543.19	14.44
543.68	16.39
544.17	22.84
544.65	22.52
545.14	20.18
545.63	12.79
546.12	7.05
546.6	7.75
547.09	12.01
547.58	15.85
548.07	12.62
548.56	9.35
549.04	12.04

APPENDIX 4

WELLSITE DAILY REPORTS

[illegible]

[illegible]



Plainview 3 "Daily Drilling Report"

Monday 14th of April
Weather

Well		Plainview 3		Current Formation:		Springbok		Gross Coal From Core	
Rig	Major Drilling Rig # 70	Daily Meterage:	0.00	Rig Onsite:	11/04/2008	Daily Coal	0		
Latitude	27° 28' 43"S	Sput:	12/04/2008	Cumulative	0				
Longitude	151° 10' 36"E	Casing Set:	14/04/2008						
Easting	319 860	Coring Start:							
Northing	6 959 230	Logging:							
Zone	56	P&A							
Datum	GDA 94	Release							
Elevation:	350m								
Current Depth	143.50	PTD:	550m						
Drilled From:	143.50	Drilled To:	143.50						
Desorb:	0	Cumulative:	0						
Daily Ops	Put in casing and cement								
Safety and Environment									
Last Safety Meeting:		14/04/2008		Days Since LTI:		NA			
Comments									
Bit Data									
Bit #	Size	Type	From	To	Hours	Fluid	Fluid SG	Additives	
1	200mm	PDC	0.00	6.00	0.33	Water	-	-	
2	146mm	PDC	6.00	143.50	7.17	Water	-	Liquid Pol. CR-650	
3									
4									
5									
6									
7									
Casing									
	From	To	Make	API Grade	Standard	ID	OD	WT	
Conductor:	0	6	Steel	-	-	155.5mm	168.3mm	4.8mm	
Surface Casing:	0	143.5	Steel	-	-	102mm	114mm	6mm	
Casing Annulus Details									
	From	To	Type	Water Volume	# Bags	Grout Volume	SG	H ₂ O p/bag	
Conductor:	0	6.00	Cement	200L	9 x 20kg	205L	1.65	12.5L	
Surface Casing:	0	143.5	Cement	1024L	41 x 40kg	1590L	1.68	24.97L	
Plug Details									
	From	To	Type	Volume	Bags	Volume	SG	H ₂ O p/bag	
Daily Activity Summary									
From	To	Description	Depth (m)	Deviation	Azimuth				
5:15	6:00	Travel							
6:00	6:45	Tool box safety meeting/rig prestart/site check and prep							
6:45	9:30	conduct whipper trip							
9:30	11:00	Run in casing							
11:00	12:45	circulate hole clean							
12:45	1:00	Cementing							
1:00	6:00	Cement drying							
Well site Visitors									
From	To	Description							
11:15	11:20	sch4p4(6) Personal information							
12:45	1:00	sch4p4 Cement							
BHA									
Operations for next 24hrs									
nipple up BOP's, pressure test casing, drill out cement and start coring									
Personnel									
Arrow Contractor	sch4p4(6) Personal information								
Comments									



Plainview 3 "Daily Drilling Report"

Tuesday 15th of April
Weather

Sunny and cloudy

Well Rig Latitude Longitude Easting Northing Zone Datum Elevation: Current Depth Drilled From: Desorb: Daily Ops	Plainview 3 Major Drilling Rig # 70 27°28'43"S 151°10'36"E 319 860 6 959 230 56 GDA 94 350m PTD: 550m Drilled To: 159.14 Cumulative: 0 Drill through cement, install annular bag and begin coring	Current Formation: Daily Meterage: Rig Onsite: Spud: Casing Set: Coring Start: TO: Logging: P&A Release	Kogan 15.64 11/04/2008 12/04/2008 14/04/2008 15/04/2008 	Gross Coal From Core Daily Coal Cumulative Costings Daily Cumulative	0.58m 0.58m \$7,850.23 \$54,498.38
Safety and Environment Last Safety Meeting: 15/04/2008 Days Since LTI: NA Comments				Gas Production/Kicks Date Depth Rate	
Bit Data Bit # Size Type From To Hours Fluid Fluid SG Additives				Water Production/Loss/Kicks Date Depth Rate	
1 200mm PDC 0.00 6.00 0.33 Water - -				-	
2 146mm PDC 6.00 143.50 7.17 Water - Liquid Pol, CR-650				-	
3 96mm HQ3 143.50 159.14 2.8 Water - Liquid Pol, CR-650				-	
4					
5					
6					
7					
Casing Conductor: Surface Casing:				From To Make API Grade Standard ID OD WT Weight # Joints Length	
0 6 Steel - - 155.5mm 168.3mm 4.8mm -				1 6m	
0 143.5 Steel - - 102mm 114mm 6mm -				23 6.2m	
Casing Annulus Details Conductor: Surface Casing:				From To Type Water Volume # Bags Grout Volume SG H ₂ O p/bag Chase Water Volume Notes	
0 6.00 Cement 200L 9 x 20kg 205L 1.65 12.5L -				Hand mixed and poured. Cement Wagners Cement	
0 143.5 Cement 1024L 41 x 40kg 1590L 1.68 24.97L 1049L					
Plug Details Conductor: Surface Casing:				From To Type Volume Bags Volume SG H ₂ O p/bag Notes	
0 6.00 Cement 200L 9 x 20kg 205L 1.65 12.5L -				Hand mixed and poured. Cement Wagners Cement	
0 143.5 Cement 1024L 41 x 40kg 1590L 1.68 24.97L 1049L					
Daily Activity Summary From To Description				Deviation Surveys Depth (m) Deviation Azimuth	
5:15 6:00 Travel					
6:00 6:45 Tool box meeting and safety meeting/rig prestart/site check and prep					
6:45 08:00 Trip in and tag cement plug @ 122m					
08:00 08:30 drill out cement plug with blade bit to 141.5m					
8:30 9:00 Trip out					
9:00 9:30 Attempt to attach valve to bluey line but threads were different sizes so unable to perform					
9:30 11:15 Run in hole					
11:30 11:45 Pressure test to 300psi (held pressure for 10min)					
11:45 5:15 Coring					
5:15 6:00 Clean up and travel					
Well site Visitors From To Description					
BHA					
Operations for next 24hrs Coring ahead					
Personnel Arrow Contractor Comments				sch4p4(6) Personal information	



Plainview 3 "Daily Drilling Report"

Wednesday 16th of April
Weather

Sunny with clouds									
Well	Plainview 3				Current Formation:	Kogan			
Rig	Major Drilling Rig # 70				Daily Meterage:	23.70			
Latitude	27°28'43"S				Rig Onsite:	11/04/2008			
Longitude	151°10'36"E				Spud:	12/04/2008			
Easting	319 860				Casing Set:	14/04/2008			
Northing	6 959 230				Coring Start:	15/04/2008			
Zone	56				Logging:				
Datum	GDA 94				P&A				
Elevation:	350m				Release				
Current Depth	182.84	PTD:	550m						
Drilled From:	159.14	Drilled To:	182.84						
Desorb:	1	Cumulative:	1						
Daily Ops	Coring ahead								
Safety and Environment									
Last Safety Meeting:		16/04/2008		Days Since LTI:		NA			
Comments									
Gas Production/Kicks									
Date	Depth	Rate							
Bit Data									
Bit #	Size	Type	From	To	Hours	Fluid	Fluid SG	Additives	
1	200mm	PDC	0.00	6.00	0.33	Water	-	-	
2	146mm	PDC	6.00	143.50	7.17	Water	-	Liquid Pol. CR-650	
3	96mm	HQ3	143.50	182.84	11.12	Water	-	Liquid Pol. CR-650	
4									
5									
6									
7									
Water Production/Loss/Kicks									
Date	Depth	Rate							
Casing									
From	To	Make	API Grade	Standard	ID	OD	WT	Weight	# Joints
Conductor:	0	6	Steel	-	-	155.5mm	168.3mm	4.8mm	-
Surface Casing:	0	143.5	Steel	-	-	102mm	114mm	6mm	-
Casing Annulus Details									
From	To	Type	Water Volume	# Bags	Grout Volume	SG	H ₂ O p/bag	Chase Water Volume	Notes
Conductor:	0	6.00	Cement	200L	9 x 20kg	205L	1.65	12.5L	-
Surface Casing:	0	143.5	Cement	1024L	41 x 40kg	1590L	1.68	24.97L	1049L
Plug Details									
From	To	Type	Volume	Bags	Volume	SG	H ₂ O p/bag	Notes	
Daily Activity Summary									
From	To	Description					Depth (m)	Deviation	Azimuth
5:15	6:00	Travel							
6:00	6:45	toolbox							
6:45	10:30	Coring							
10:30	11:15	Rig repairs							
11:15	2:15	Coring							
2:15	2:45	Rig repairs							
2:45	3:45	Coring							
3:45	4:45	Rig repairs							
4:45	5:30	Coring							
5:30	6:00	Clean up and travel							
Well site Visitors									
From	To	Description							
1:00	4:00	sch4p4(							
BHA									
Operations for next 24hrs									
Coring ahead									
Personnel									
Arrow Contractor	sch4p4(6) Personal information								
Comments									



Plainview 3 "Daily Drilling Report"

Thursday 17th of April
Weather

Sunny with clouds

Well Rig Latitude Longitude Easting Northing Zone Datum Elevation: Current Depth Drilled From: Desorb: Daily Ops	Plainview 3 Major Drilling Rig # 70 27° 28' 43"S 151° 10' 36"E 319 860 6 959 230 56 GDA 94 350m PTD: 550m Drilled To: 204.16 Cumulative: 3 POOH and RIH with new 6m barrel then continue coring	Current Formation: Daily Meterage: Rig Onsite: Spud: Casing Set: Coring Start: TO: Logging: P&A Release	Macalister 21.32 11/04/2008 12/04/2008 14/04/2008 15/04/2008 	Gross Coal From Core Daily Coal Cumulative Costings Daily Cumulative	1.87 4.04 \$8,781.19 \$71,710.22					
Safety and Environment					Gas Production/Kicks					
Last Safety Meeting: 16/04/2008 Days Since LTI: NA					Date Depth Rate					
Comments										
Bit Data										
Bit #	Size	Type	From	To	Hours	Fluid	Fluid SG	Additives		
1	200mm	PDC	0.00	6.00	0.33	Water	-	-		
2	146mm	PDC	6.00	143.50	7.17	Water	-	Liquid Pol, CR-650		
3	96mm	HQ3	143.50	204.16	16.73	Water	-	Liquid Pol, CR-650		
4										
5										
6										
7										
Casing										
Conductor:	From 0 To 6	Make Steel	API Grade -	Standard -	ID 155.5mm	OD 168.3mm	WT 4.8mm	Weight -	# Joints 1	Length 6m
Surface Casing:	From 0 To 143.5	Make Steel	API Grade -	Standard -	ID 102mm	OD 114mm	WT 6mm	Weight -	# Joints 23	Length 6.2m
Casing Annulus Details										
	From	To	Type	Water Volume	# Bags	Grout Volume	SG	H ₂ O p/bag	Chase Water Volume	Notes
Conductor:	0	6.00	Cement	200L	9 x 20kg	205L	1.65	12.5L	-	Hand mixed and poured. Cement
Surface Casing:	0	143.5	Cement	1024L	41 x 40kg	1590L	1.68	24.97L	1049L	Wagners Cement
Plug Details										
	From	To	Type	Volume	Bags	Volume	SG	H ₂ O p/bag		Notes
Daily Activity Summary										
From	To	Description	Depth (m)	Deviation	Azimuth					
5:15	6:00	Travel								
6:00	6:45	Toolbox safety meeting/rig prestart/site check and prep								
6:45	8:30	POOH for installation of 6m barrel								
8:30	9:45	RIH								
9:45	5:30	Coring								
5:30	6:00	Clean up and travel								
Well site Visitors										
From	To	Description								
11:30	12:00	Sch4 water truck								
3:30	4:00	Sch4(6) electricians.								
BHA										
Operations for next 24hrs										
Coring ahead										
Personnel										
Arrow Contractor	sch4p4(6) Personal information									
Comments										

[illegible]

[illegible]



Plainview 3 "Daily Drilling Report"

Sunday 20th of April
Weather

Cloudy with showers

Well	Plainview 3			Current Formation:	Argyle			Gross Coal From Core		
Rig	Major Drilling Rig # 70			Daily Meterage:	43.10			Daily Coal	4.26	
Latitude	27° 28' 43"S			Rig Onsite:	11/04/2008			Cumulative	12.93	
Longitude	151° 10' 36"E			Spud:	12/04/2008			Costings		
Easting	319 860			Casing Set:	14/04/2008			Daily	\$11,030.45	
Northing	6 959 230			Coring Start:	15/04/2008			Cumulative	\$104,334.43	
Zone	56			Logging:						
Datum	GDA 94			P&A						
Elevation:	350m			Release						
Current Depth	334.29	PTD:	550m							
Drilled From:	291.19	Drilled To:	334.29							
Desorb:	5		12							
Daily Ops	Coring ahead									
Safety and Environment										
Last Safety Meeting:		20/04/2008		Days Since LTI:		NA				
Comments										
Bit Data										
Bit #	Size	Type	From	To	Hours	Fluid	Fluid SG	Additives		
1	200mm	PDC	0.00	6.00	0.33	Water	-	-		
2	146mm	PDC	6.00	143.50	7.17	Water	-	Liquid Pol, CR-650		
3	96mm	HQ3	143.50	334.29	40.12	Water	-	Liquid Pol, CR-650		
4										
5										
6										
7										
Casing										
	From	To	Make	API Grade	Standard	ID	OD	WT	Weight	
Conductor:	0	6	Steel	-	-	155.5mm	168.3mm	4.8mm	-	
Surface Casing:	0	143.5	Steel	-	-	102mm	114mm	6mm	-	
Casing Annulus Details										
	From	To	Type	Water Volume	# Bags	Grout Volume	SG	H ₂ O p/bag	Chase Water Volume	
Conductor:	0	6.00	Cement	200L	9 x 20kg	205L	1.65	12.5L	-	
Surface Casing:	0	143.5	Cement	1024L	41 x 40kg	1590L	1.68	24.97L	1049L	
Plug Details										
	From	To	Type	Volume	Bags	Volume	SG	H ₂ O p/bag	Notes	
Daily Activity Summary										
From	To	Description	Depth (m)	Deviation	Azimuth					
5:15	6:00	Travel								
6:00	6:30	Toolbox safety meeting/rig prestart/site check and prep								
6:30	18:00	Coring								
Well site Visitors										
From	To	Description								
BHA										
Operations for next 24hrs										
Coring ahead										
Personnel										
Arrow Contractor	sch4p4(6) Personal information									
Comments										

[illegible]

clear sunny, cloudy scattered showers in

to further										afternoon																																																																																																																							
Well Rig Latitude Longitude Easting Northing Zone Datum Elevation: Current Depth Drilled From: Desorb: Daily Ops										Plainview 3 Major Drilling Rig # 70 27° 28' 43"S 151° 10' 36"E 319 860 6 959 230 56 GDA 94 350m 405.19 369.19 1										Taroom Current Formation: Daily Meterage: Rig Create: Spuil: Casing Set: Coring Start: TD: Logging: P&A Release										Gross Coal From Core Daily Coal Cumulative Costings Daily Cumulative																																																																																																			
										38.90 11/04/2008 12/04/2008 14/04/2008 15/04/2008 										1.22m 15.76m \$6.904 \$103.998																																																																																																													
										coring																																																																																																																							
Safety and Environment																														Gas Production/Kicks																																																																																																			
Last Safety Meeting:										22/04/2008										Days Since LTI:										NA																																																																																																			
Comments																				Date										Depth										Ra																																																																																									
bit roads and animals																																																																																																																																	
Bit Data																																																																																																																																	
Bit #										Size										Type										From										To										Hours										Fluid										Fluid SG										Additives																																																	
1										200mm										PDC										0.00										6.00										0.33										Water										-																																																											
2										146mm										PDC										6.00										143.50										7.17										Water										-										Liquid Pol, CR-650																																																	
3										96mm										HQ3										143.50										405.19										55.17										Water										-										Liquid Pol, CR-650																																																	
4																																																																																																																																	
5																																																																																																																																	
6																																																																																																																																	
7																																																																																																																																	
Casing																																																																																																																																	
Conductor:										From										To										Make										API Grade										Standard										ID										OD										WT										Weight										# Joints										Length																			
Surface Casing:										0										143.5										Steel										-										-										155.5mm										168.3mm										4.8mm										-										-										23										6.2m									
Casing Annulus Details																																																																																																																																	
Conductor:										From										To										Type										Water Volume										# Bags										Grout Volume										SG										H₂O p/bag										Chase Water Volume										Notes																													
Surface Casing:										0										6.00										Cement										200L										9 x 20kg										205L										1.65										12.5L										-										Hand mixed and poured. Cement Wagners Cement																													
										0										143.5										Cement										1024L										41 x 40kg										1590L										1.68										24.97L										1049L																																							
Plug Details																																																																																																																																	
From										To										Type										Volume										Bags										Volume										SG										H₂O p/bag										Notes																																																	
Daily Activity Summary																																																																																																																																	
From										To										Description										Depth (m)										Deviation										Azimuth																																																																															
5:15										6:00										Travel																																																																																																													
6:00										6:30										prestart and tool box safety meetings																																																																																																													
6:30										18:00										coring																																																																																																													
18:00										18:45										travel																																																																																																													



Plainview 3 Daily Drilling Report

Wednesday, 23 April 2008

Weather
partly cloudy, scattered showers in early afternoon

Well Rig Latitude Longitude Easting Northing Zone Datum Elevation: Current Depth Drilled From: Desorb: Daily Ops	Plainview 3 Major Drilling Rig # 70 27° 28' 43"S 151° 10' 36"E 319 860 6 959 230 56 GDA 94 350m 432.99 405.19 3 PTD: Drilled To: Cumulative: 500m 432.99 17	Current Formation: Daily Meterage: Rig Onsite: Spud: Casing Set: Coring Start: TO: Logging: P&A Release	Taroom 27.80 11/04/2008 12/04/2008 14/04/2008 15/04/2008 coring	Gross Coal From Core Daily Coal Cumulative Costings Daily Cumulative	2.45m 18.21m \$8,164 \$112,162						
Safety and Environment											
Last Safety Meeting: 23/04/2008 Days Since LTI: NA											
Comments: servicing utes and equipment, lightning											
Bit Data											
Bit #	Size	Type	From	To	Hours	Fluid	Fluid SG	Additives	Water Production/Loss/Kicks		
1	200mm	PDC	0.00	6.00	0.33	Water	-	-	Date	Depth	Rate
2	146mm	PDC	6.00	143.50	7.17	Water	-	Liquid Pol, CR-650			
3	96mm	HQ3	143.50	432.99	60.77	Water	-	Liquid Pol, CR-650			
4											
5											
6											
7											
Casing											
Conductor:	From	To	Make	API Grade	Standard	ID	OD	WT	Weight	# Joints	Length
Surface Casing:	0	6	Steel	-	-	155.5mm	168.3mm	4.8mm	-	1	6m
	0	143.5	Steel	-	-	102mm	114mm	6mm	-	23	6.2m
Casing Annulus Details											
	From	To	Type	Water Volume	# Bags	Grout Volume	SG	H ₂ O p/bag	Chase Water Volume	Notes	
Conductor:	0	6.00	Cement	200L	9 x 20kg	205L	1.65	12.5L	-	Hand mixed and poured. Cement	
Surface Casing:	0	143.5	Cement	1024L	41 x 40kg	1590L	1.68	24.97L	1049L	Wagners Cement	
Plug Details											
	From	To	Type	Volume	Bags	Volume	SG	H ₂ O p/bag	Notes		
Daily Activity Summary											
From	To	Description				Depth (m)	Deviation	Azimuth			
5:15	6:00	Travel									
6:00	6:30	prestart and tool box safety meetings									
6:30	8:30	maintenance									
8:30	17:00	coring									
17:00	18:00	water swivel head break and repair									
18:00	18:45	Travel									
Well site Visitors											
From	To	Description									
BHA											
Operations for next 24hrs											
coring											
Personnel											
Arrow Contractor	sch4p4(6) Personal information										
Comments											



Plainview 3 Daily Drilling Report

Thursday, 24 April 2008
Weather

sunny with afternoon clouds

Well Rig Latitude Longitude Easting Northing Zone Datum Elevation: Current Depth Drilled From: Desorb: Daily Ops	Plainview 3 Major Drilling Rig # 70 27° 28' 43"S 151° 10' 36"E 319 860 6 959 230 56 GDA 94 350m 462.19 432.99 5 PTD: Drilled To: Cumulative: 500m 462.19 22	Current Formation: Daily Meterage: Rig Onsite: Spud: Casing Set: Coring Start: TO: Logging: P&A Release	Taroom 29.20 11/04/2008 12/04/2008 14/04/2008 15/04/2008 fix water swivel and hose, coring	Gross Coal From Core Daily Coal Cumulative Costings Daily Cumulative \$10,841 \$123,563
Safety and Environment Last Safety Meeting: 24/04/2008 Days Since LTI: NA Comments: fog, safety work permits, gas monitor alarms, air compressor chag				Gas Production/Kicks Date Depth Rate
Bit Data Bit # Size Type From To Hours Fluid Fluid SG Additives				Water Production/Loss/Kicks Date Depth Rate
Casing Conductor: Surface Casing:				From To Make API Grade Standard ID OD WT Weight # Joints Length
Casing Annulus Details Conductor: Surface Casing:				From To Type Water Volume # Bags Grout Volume SG H ₂ O p/bag Chase Water Volume Notes
Plug Details Conductor: Surface Casing:				From To Type Volume Bags Volume SG H ₂ O p/bag Notes
Daily Activity Summary From To Description				Deviation Surveys Depth (m) Deviation Azimuth
Well site Visitors From To Description				
BHA				
Operations for next 24hrs coring				
Personnel Arrow Contractor Comments				



Plainview 3 Daily Drilling Report

Friday, 25 April 2008
Weather

sunny with afternoon clouds

Well	Plainview 3			Current Formation:	Eurombah	Gross Coal From Core		
Rig	Major Drilling Rig # 70			Daily Meterage:	36.00	Daily Coal 5.95m		
Latitude	27° 28' 43"S			Rig Onsite:	11/04/2008	Cumulative 28.93m		
Longitude	151° 10' 36"E			Sput:	12/04/2008	Costings		
Easting	319 860			Casing Set:	14/04/2008	Daily \$10,675		
Northing	6 959 230			Coring Start:	15/04/2008	Cumulative \$134,239		
Zone	56			Logging:				
Datum	GDA 94			P&A				
Elevation:	350m			Release				
Current Depth	498.19	PTD:	500m					
Drilled From:	462.19	Drilled To:	498.19					
Desorb:	5	Cumulative:	27					
Daily Ops	fix water swivel and hose, coring							
Safety and Environment								
Last Safety Meeting:			25/04/2008			Days Since LTI: NA		
Comments			water swivel, safty sock, slippery conditions, lightning, wildlife, JSA revis					
Bit Data								
Bit #	Size	Type	From	To	Hours	Fluid	Fluid SG	Additives
1	200mm	PDC	0.00	6.00	0.33	Water	-	-
2	146mm	PDC	6.00	143.50	7.17	Water	-	Liquid Pol, CR-650
3	96mm	HQ3	143.50	498.19	74.27	Water	-	Liquid Pol, CR-650
4								
5								
6								
7								
Casing								
	From	To	Make	API Grade	Standard	ID	OD	WT
Conductor:	0	6	Steel	-	-	155.5mm	168.3mm	4.8mm
Surface Casing:	0	143.5	Steel	-	-	102mm	114mm	6mm
Casing Annulus Details								
	From	To	Type	Water Volume	# Bags	Grout Volume	SG	H ₂ O p/bag
Conductor:	0	6.00	Cement	200L	9 x 20kg	205L	1.65	12.5L
Surface Casing:	0	143.5	Cement	1024L	41 x 40kg	1590L	1.68	24.97L
Plug Details								
	From	To	Type	Volume	Bags	Volume	SG	H ₂ O p/bag
Notes								
Daily Activity Summary								
From	To	Description	Depth (m)	Deviation	Azimuth			
5:15	6:00	Travel						
6:00	6:30	tool box safty meetings, prestart						
6:30	18:00	coring						
18:00	18:45	Travel						
Well site Visitors								
From	To	Description						
11:30	11:38	sch4p4 T.G.S. to pick up gas detector						
BHA								
Operations for next 24hrs								
coring								
Personnel								
Arrow Contractor	sch4p4(6) Personal information							
Comments								



Plainview 3 Daily Drilling Report

Saturday, 26 April 2008
Weather

sunny, partly cloudy

Well Rig Latitude Longitude Easting Northing Zone Datum Elevation: Current Depth Drilled From: Desorb: Daily Ops	Plainview 3 Major Drilling Rig # 70 27° 28' 43"S 151° 10' 36"E 319 860 6 959 230 56 GDA 94 350m 499.99 498.19 0 core from 498 to 500m. Twist off drilling rod, POOH and fish for drilling string.	Current Formation: Daily Meterage: Rig Onsite: Spud: Casing Set: Coring Start: TO: Logging: P&A Release	Eurombah 1.80 11/04/2008 12/04/2008 14/04/2008 15/04/2008 	Gross Coal From Core Daily Coal Cumulative Costings Daily Cumulative	0m 28.93m \$3,544 \$137,783						
Safety and Environment					Gas Production/Kicks						
Last Safety Meeting: 26/04/2008 Days Since LTI: NA					Date Depth Rate						
Comments: wildlife and live stock, no drilling unless geo's on site, hole condition:											
Bit Data											
Bit #	Size	Type	From	To	Hours	Fluid	Fluid SG	Additives			
1	200mm	PDC	0.00	6.00	0.33	Water	-	-			
2	146mm	PDC	6.00	143.50	7.17	Water	-	Liquid Pol, CR-650			
3	96mm	HQ3	143.50	499.99	74.87	Water	-	Liquid Pol, CR-650			
4											
5											
6											
7											
Casing											
	From	To	Make	API Grade	Standard	ID	OD	WT	Weight	# Joints	Length
Conductor:	0	6	Steel	-	-	155.5mm	168.3mm	4.8mm	-	1	6m
Surface Casing:	0	143.5	Steel	-	-	102mm	114mm	6mm	-	23	6.2m
Casing Annulus Details											
	From	To	Type	Water Volume	# Bags	Grout Volume	SG	H ₂ O p/bag	Chase Water Volume	Notes	
Conductor:	0	6.00	Cement	200L	9 x 20kg	205L	1.65	12.5L	-	Hand mixed and poured. Cement	
Surface Casing:	0	143.5	Cement	1024L	41 x 40kg	1590L	1.68	24.97L	1049L	Wagners Cement	
Plug Details											
	From	To	Type	Volume	Bags	Volume	SG	H ₂ O p/bag	Notes		
Daily Activity Summary											
From	To	Description	Depth (m)	Deviation	Azimuth						
5:15	6:00	Travel									
6:00	6:30	tool box safety meetings, prestart									
6:30	7:30	coring									
7:30	7:45	loss of water pressure but still circulating									
7:45	8:00	Ran rod in by 4 metres indicating twisted off rod and wash out.									
8:00	10:00	trip out									
10:00	14:00	rod break at 267m, fish for broken rod									
14:00	16:00	finish tripping out									
16:00	16:30	get clearance to drill further									
16:30	18:00	trip in									
18:00	18:45	Travel									
Well site Visitors											
From	To	Description	Depth (m)	Deviation	Azimuth						
BHA											
Operations for next 24hrs											
finish RIH & coring											
Personnel											
Arrow Contractor	sch4p4(6) Personal information										
Comments											



Plainview 3 Daily Drilling Report

Sunday, 27 April 2008
Weather

Well Rig Latitude Longitude Easting Northing Zone Datum Elevation: Current Depth Drilled From: Desorb: Daily Ops		Plainview 3 Major Drilling Rig # 70 27° 28' 43"S 151° 10' 36"E 319 860 6 959 230 56 GDA 94 350m 525.19 499.99 0		PTD: 500m Drilled To: 525.19 Cumulative: 27		Current Formation: Daily Meterage: Rig Onsite: Spud: Casing Set: Coring Start: Logging: P&A Release		Eurombah 25.20 11/04/2008 12/04/2008 14/04/2008 15/04/2008		Gross Coal From Core Daily Coal Cumulative Costings Daily Cumulative													
Last Safety Meeting: Comments		27/04/2008 reflectors on fence, getting to work on time		Days Since LTI: NA		Safety and Environment		Gas Production/Kicks Date Depth Rate		sunny													
Bit #		Size		Type		From		To		Hours		Fluid		Fluid SG		Additives		Water Production/Loss/Kicks Date Depth Rate					
1		200mm		PDC		0.00		6.00		0.33		Water		-		-		-					
2		146mm		PDC		6.00		143.50		7.17		Water		-		Liquid Pol, CR-650		-					
3		96mm		HQ3		143.50		525.19		81.8		Water		-		Liquid Pol, CR-650		-					
4																							
5																							
6																							
7																							
Casing		From		To		Make		API Grade		Standard		ID		OD		WT		Weight		# Joints		Length	
Conductor:		0		6		Steel		-		-		155.5mm		168.3mm		4.8mm		-		1		6m	
Surface Casing:		0		143.5		Steel		-		-		102mm		114mm		6mm		-		23		6.2m	
Casing Annulus Details		From		To		Type		Water Volume		# Bags		Grout Volume		SG		H ₂ O p/bag		Chase Water Volume		Notes			
Conductor:		0		6.00		Cement		200L		9 x 20kg		205L		1.65		12.5L		-		Hand mixed and poured. Cement			
Surface Casing:		0		143.5		Cement		1024L		41 x 40kg		1590L		1.68		24.97L		1049L		Wagners Cement			
Plug Details		From		To		Type		Volume		Bags		Volume		SG		H ₂ O p/bag		Notes					
Daily Activity Summary		From		To		Description		Depth (m)		Deviation		Azimuth											
5:15		6:00		Travel																			
6:00		6:30		tool box safety meetings, prestart																			
6:30		8:00		finish tripping in																			
8:00		18:00		coring																			
18:00		18:45		Travel																			
Well site Visitors		From		To		Description		Depth (m)		Deviation		Azimuth											
BHA																							
Operations for next 24hrs																							
coring																							
Personnel																							
Arrow Contractor																							
Comments																							



Plainview 3 Daily Drilling Report

Monday, 28 April 2008
Weather

Well		Plainview 3		Current Formation: Eurombah		Gross Coal From Core					
Rig		Major Drilling Rig # 70		Daily Meterage: 24.00		Daily Coal: .39m					
Latitude		27° 28' 43"S		Rig Onsite: 11/04/2008		Cumulative: 29.4m					
Longitude		151° 10' 36"E		Spud: 12/04/2008		Costings					
Easting		319 860		Casing Set: 14/04/2008		Daily: \$4,074					
Northing		6 959 230		Coring Start: 15/04/2008		Cumulative: \$141,990					
Zone		56		Logging: P&A							
Datum		GDA 94		Release							
Elevation:		350m									
Current Depth		549.19	PTD:	500m							
Drilled From:		525.19	Drilled To:	549.19							
Desorb:		0	Cumulative:	27							
Daily Ops		coring									
Safety and Environment											
Last Safety Meeting:		28/04/2008		Days Since LTI:		NA					
Comments		wild life									
Bit Data											
Bit #	Size	Type	From	To	Hours	Fluid	Fluid SG	Additives			
1	200mm	PDC	0.00	6.00	0.33	Water	-	-			
2	146mm	PDC	6.00	143.50	7.17	Water	-	Liquid Pol, CR-650			
3	96mm	HQ3	143.50	549.19	90.1	Water	-	Liquid Pol, CR-650			
4											
5											
6											
7											
Casing											
	From	To	Make	API Grade	Standard	ID	OD	WT	Weight	# Joints	Length
Conductor:	0	6	Steel	-	-	155.5mm	168.3mm	4.8mm	-	1	6m
Surface Casing:	0	143.5	Steel	-	-	102mm	114mm	6mm	-	23	6.2m
Casing Annulus Details											
	From	To	Type	Water Volume	# Bags	Grout Volume	SG	H ₂ O p/bag	Chase Water Volume	Notes	
Conductor:	0	6.00	Cement	200L	9 x 20kg	205L	1.65	12.5L	-	Hand mixed and poured. Cement	
Surface Casing:	0	143.5	Cement	1024L	41 x 40kg	1590L	1.68	24.97L	1049L	Wagners Cement	
Plug Details											
	From	To	Type	Volume	Bags	Volume	SG	H ₂ O p/bag	Notes		
Daily Activity Summary											
From	To	Description					Depth (m)	Deviation	Azimuth		
5:15	6:00	Travel									
6:00	6:30	tool box safty meetings, prestart									
6:30	18:00	coring									
18:00	18:45	Travel									
Well site Visitors											
From	To	Description									
BHA											
Operations for next 24hrs											
coring											
Personnel											
Arrow Contractor	sch4p4(6) Personal information										
Comments											



Plainview 3 Daily Drilling Report

Tuesday, 29 April 2008
Weather

Well		Plainview 3		Current Formation:		Eurombah		Gross Coal From Core	
Rig	Major Drilling Rig # 70	Daily Meterage:	15.00	Rig Onsite:	11/04/2008	Daily Coal	0.21		
Latitude	27° 28' 43"S	Sput:	12/04/2008	Cumulative	29.61m				
Longitude	151° 10' 36"E	Casing Set:	14/04/2008						
Easting	319 860	Coring Start:	15/04/2008						
Northing	6 959 230	Logging:	29/04/2008						
Zone	56	P&A							
Datum	GDA 94	Release							
Elevation:	350m								
Current Depth	564.19	PTD:	500m						
Drilled From:	549.19	Drilled To:	564.19						
Desorb:	0	Cumulative:	27						
Daily Ops	coring to TD, flush hole, trip out								
Safety and Environment									
Last Safety Meeting:		29/04/2008		Days Since LTI:		NA			
Comments		gravel on roads, wide loads and no shoulder on road							
Bit Data									
Bit #	Size	Type	From	To	Hours	Fluid	Fluid SG	Additives	
1	200mm	PDC	0.00	6.00	0.33	Water	-	-	
2	146mm	PDC	6.00	143.50	7.17	Water	-	Liquid Pol, CR-650	
3	96mm	HQ3	143.50	564.19	95.72	Water	-	Liquid Pol, CR-650	
4									
5									
6									
7									
Casing									
	From	To	Make	API Grade	Standard	ID	OD	WT	
Conductor:	0	6	Steel	-	-	155.5mm	168.3mm	4.8mm	
Surface Casing:	0	143.5	Steel	-	-	102mm	114mm	6mm	
Casing Annulus Details									
	From	To	Type	Water Volume	# Bags	Grout Volume	SG	H ₂ O p/bag	
Conductor:	0	6.00	Cement	200L	9 x 20kg	205L	1.65	12.5L	
Surface Casing:	0	143.5	Cement	1024L	41 x 40kg	1590L	1.68	24.97L	
Plug Details									
	From	To	Type	Volume	Bags	Volume	SG	H ₂ O p/bag	
Daily Activity Summary									
From	To	Description	Depth (m)	Deviation	Azimuth				
5:15	6:00	Travel							
6:00	6:30	tool box safety meetings, prestart							
6:30	14:15	coring to TD @ 564.19							
14:15	16:00	Flush							
16:00	18:00	trip out							
18:00	18:45	Travel							
Well site Visitors									
From	To	Description							
12:43	12:55	sch4p4 from Arrow, returning gas detector							
12:00	12:55	sch4p4 of Arrow							
12:00	12:55	sch4p4 of Arrow							
15:00	16:00	sch4p4 of FeziRax, the water truck							
BHA									
Operations for next 24hrs									
coring									
Personnel									
Arrow Contractor	sch4p4 (6) Personal information								
Comments									



Plainview 3 Daily Drilling Report

Wednesday, 30 April 2008
Weather

Well		Plainview 3		Current Formation:		Eurombah		Gross Coal From Core			
Rig		Major Drilling Rig # 70		Daily Meterage:		0.00		Daily Coal	0		
Latitude		27° 28' 43"S		Rig Onsite:		11/04/2008		Cumulative	29.61m		
Longitude		151° 10' 36"E		Spud:		12/04/2008		Costings			
Easting		319 860		Casing Set:		14/04/2008		Daily	\$10,040		
Northing		6 959 230		Coring Start:		15/04/2008		Cumulative	\$251,377		
Zone		56		Logging:		29/04/2008					
Datum		GDA 94		P&A							
Elevation:		350m		Release							
Current Depth		564.19	PTD:	500m							
Drilled From:		564.19	Drilled To:	564.19							
Desorb:		0	Cumulative:	27							
Daily Ops	wire line log, re-flush hole because wire loggers got stuck										
Safety and Environment											
Last Safety Meeting:		30/04/2008		Days Since LTI:		NA					
Comments		gravel on roads, wide loads and no shoulder on road									
Bit Data											
Bit #	Size	Type	From	To	Hours	Fluid	Fluid SG	Additives			
1	200mm	PDC	0.00	6.00	0.33	Water	-	-			
2	146mm	PDC	6.00	143.50	7.17	Water	-	Liquid Pol, CR-650			
3	96mm	HQ3	143.50	564.19	95.72	Water	-	Liquid Pol, CR-650			
4											
5											
6											
7											
Casing											
	From	To	Make	API Grade	Standard	ID	OD	WT	Weight		
Conductor:	0	6	Steel	-	-	155.5mm	168.3mm	4.8mm	-		
Surface Casing:	0	143.5	Steel	-	-	102mm	114mm	6mm	-		
Casing Annulus Details											
	From	To	Type	Water Volume	# Bags	Grout Volume	SG	H₂O p/bag	Chase Water Volume		
Conductor:	0	6.00	Cement	200L	9 x 20kg	205L	1.65	12.5L	-		
Surface Casing:	0	143.5	Cement	1024L	41 x 40kg	1590L	1.68	24.97L	1049L		
Plug Details											
	From	To	Type	Volume	Bags	Volume	SG	H₂O p/bag	Notes		
Daily Activity Summary											
From	To	Description							Depth (m)	Deviation	Azimuth
5:45	6:00	Travel									
6:00	10:00	wait for loggers									
10:00	12:15	start wire line logging, got caught up at 461m									
12:15	15:00	trip in to flush hole									
15:00	17:00	flush hole									
17:00	17:45	Travel									
Well site Visitors											
From	To	Description									
10:15	13:00	sch4p	CSWS (wire line)								
10:15	13:00		CSWS (wire line)								
11:30	13:00		CSWS (wire line)								
BHA											
Operations for next 24hrs											
wireline log hole											
Personnel											
Arrow Contractor	sch4p4(6) Personal information										
Comments											

[illegible]

APPENDIX 5 DRILLERS DAILY REPORTS

DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER:		17588		No. 70524	
RIG:	P70	SHIFT:	DAY NIGHT		
DAY:	Sat	DATE:	12-4-08		

CLIENT: Arrow				LOCATION: Dalby				Size		Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core loss
POSITION	NAME	START	FINISH	HOURS	Hole #										
DRILLER	sch4p4(6) Personal informati	6.00	18.00	12	Casing Set	738	Blade			0	6	6			
OFFSIDER		6.00	18.00	12	DHM										
OFFSIDER		6.00	18.00	12	Ream										
OTHER					Casing Retrieved										
												TOTAL		6	

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1		TYPE		
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID		
SAFETY MEETING	3		X											3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5				X	X								5	1	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11													11		CEMENT	20kg	10
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18													18		OTHER		
CEMENT - HOLE	19					X	X							19	1	OTHER		
CEMENT - DRYING TIME	20							X	X	X	X	X	X	20	7	DIESEL		
MAINTENANCE/BREAKDOWN	21													21				
MOVE & SET UP	22		X	X	X	X								22	2	WATER CARTAGE	kms / hrs	loads
OTHER TIME	23													23		WATER DELIVERY PUMP	Days	
STANDBY - CLIENT	24													24		WATER LINE INSTALL	Hours	
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG

Total Hours

1/2

11 1/2

FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT

COMMENTS: Pre starts + safety meeting - set up rig + drilled 6m put in casing + cemented +

DRILLER:	sch4p4(6) Pe	MAJOR REP:	sch4p4(6) Personal information	CLIENT REP:	sch4p4(6) Personal
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DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER:		17588	No. 70525	
RIG:	P70	SHIFT:	DAY NIGHT	
DAY:	Sun	DATE:	13-4-08	

CLIENT: Arrow				LOCATION: Dalby				Size		Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core loss
POSITION	NAME	START	FINISH	HOURS	Hole #										
DRILLER	sch4p4(6) Personal information	6.00	6.00	12	Casing Set	146mm	PCD	PCD	6m	143.5	137.5				
OFFSIDER		6.00	6.00	12	DHM										
OFFSIDER		6.00	6.00	12	Ream										
OTHER						Casing Retrieved									
											TOTAL		137.5		

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1				
PRE-START CHECKS	2	X												2		DRILL FLUID	CR 650	15K
SAFETY MEETING	3		X											3		DRILL FLUID	Liqui Pol	20L
JSA / HAZ-OB, etc	4													4		DRILL FLUID		1
DRILL - DIAMOND GORE	5		X	X	X	X	X	X	X	X	X	X	X	5	82	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11											XX		11	1	CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18											X		18	2	OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21						XX							21	1			
MOVE & SET UP	22													22		WATER CARTAGE	kms / hrs	loads
OTHER TIME	23													23		WATER DELIVERY PUMP	Days	
STANDBY - CLIENT	24													24		WATER LINE INSTALL	Hours	
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG														Total Hours	12	102
FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT														

COMMENTS: drill from 6m to 143.5m, flush hole and trip out, (break down - valve in mud pump).

DRILLER:	sch4p4(6) Personal information	MAJOR REP:	sch4p4(6) Personal information	CLIENT REP:	sch4p4(6) Personal information
22-3018		File B		Page 148 of 199 PBK13	

DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER: 17588		No. 70526	
RIG: P70	SHIFT: DAY	NIGHT	
DAY: Mon	DATE: 14-4-08		

CLIENT: Arrow				LOCATION: Dalby				Size		Drilling Type		Bit Type		Start m		Finish m		Drilled m		Core loss			
POSITION	NAME	START	FINISH	HOURS	Hole #																		
DRILLER	sch4p4(6) Personal information	6:00	18:00	12	Casing Set	4 1/2"																	
OFFSIDER		6:00	18:00	12	DHM																		
OFFSIDER		6:00	18:00	12	Ream																		
OTHER						Casing Retrieved																	
										TOTAL													

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1	X												1		TYPE		
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID	100g Pol	25 kg
SAFETY MEETING	3		X											3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5													5		DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL CLIENT SUPP	6.2m	23
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11		X	X	X									11	1/2	CEMENT CLIENT SUPP	20kg	10
TRIP RODS - DHM	12													12		GYPSSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15				X	X	X	X						15	2	SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18		X				X	X						18	1/2	OTHER		
CEMENT - HOLE	19							X						19	1/2	OTHER		
CEMENT - DRYING TIME	20								X	X	X	X	X	20	5	DIESEL		
MAINTENANCE/BREAKDOWN	21													21				
MUDS & SET UP	22			X										22	1/2	WATER CARTAGE	kms / hrs	loads
OTHER TIME	23													23		WATER DELIVERY PUMP	Days	
STANDBY - CLIENT	24													24		WATER LINE INSTALL	Hours	
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG														Total Hours	11 1/2
FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT													

COMMENTS: Pre start - Safety Meeting - ran back in hole & flushed, pulled out flushing the hole way, setup to run casing & ran into bottom. Waited for cement to arrive & cement hole. Topped up hole at 3pm.

DRILLER: sch4p4(6) Pers	MAJOR REP: sch4p4(6) Personal information	CLIENT REP: sch4p4(6) Personal information
22-3018	File B	

DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER:		17588		No. 70527	
RIG:	P70	SHIFT:	DAY	NIGHT	
DAY:	Tues	DATE:	15-4-8		

CLIENT: Arrow				LOCATION: Dalby				Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core loss
POSITION	NAME	START	FINISH	HOURS	Hole #									
DRILLER	sch4p4(6) Personal information	6.00						HQ	core	HQ3	143.5	159.14	15.64	
OFFSIDER		6.00												
OFFSIDER		6.00												
OTHER														
						Casing Retrieved						TOTAL		15.64

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/s/size	Qty
TRAVEL TO / FROM	1													1				
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID	CR 650	15 kg
SAFETY MEETING	3		X											3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5		X	X	X	X		X	X	X	X	X	X	5	8	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11				X	X								11	1	CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18											X		18	1/2	OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21													21			kms / hrs	loads
MOVE & SET UP	22				X									22	1/2	WATER CARTAGE		
OTHER TIME	23													23		WATER DELIVERY PUMP	Days	
STANDBY - CLIENT	24													24	1	WATER LINE INSTALL	Hours	
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG

Total Hours

1/2 11 1/2

FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT

COMMENTS: pre starts, safety meeting, drill out casing, trip in HQ set up BOP, trip in HQ, stand-by waiting for valve for BOP, core to 159.14m, flush,

DRILLER:	sch4p4(6) Personal information	MAJOR REP:		CLIENT REP:	sch4p4(6) Personal information
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DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER:		17588	No. 70528	
RIG:	P70	SHIFT:	DAY NIGHT	
DAY:	Wed	DATE:	16-4-08	

CLIENT: Arrow				LOCATION: Dalby				Size	Drilling Type	Bit Type	Start m	Finish m	Drilled m	Core loss
POSITION	NAME	START	FINISH	HOURS	Hole #	P/V 3	HQ	Core	HQ 3	159.14	182.84	23.7	6	
DRILLER	sch4p4(6) Personal information	6.00	18.00	12	Casing Set									
OFFSIDER		6.00	18.00	12	DHM									
OFFSIDER		6.00	18.00	12	Ream									
OTHER						Casing Retrieved								
											TOTAL		23.7	

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1				
PRE-START CHECKS	2	X												2	Y2	DRILL FLUID	1901 Pol	25 kg
SAFETY MEETING	3		X											3	Y2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5		X	X	X	X	X	X	X	X	X	X	X	5	9	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11													11		CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18													18		OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21					X				X		X	X	21	2			
MOVE & SET UP	22													22		WATER CARTAGE	kms / hrs	loads
OTHER TIME	23													23		WATER DELIVERY PUMP	Days	
STANDBY - CLIENT	24													24		WATER LINE INSTALL	Hours	
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG

Total Hours

2 1/2 4 1/2

FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT

COMMENTS: Pre starts + safety Meeting - Drilled from 159.14m -> 182.84m - We had to replace water swivel 3 times during the day - first one over heated + the other 2 siezed up.

DRILLER:	sch4p4(6) Personal information	MAJOR REP:	sch4p4(6) Personal information	CLIENT REP:	sch4p4(6) Personal information
22-3018					

DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER: 17588		No. 70529	
RIG: P 70	SHIFT: DAY	NIGHT	
DAY: Thur	DATE: 17-4-08		

CLIENT: Arrow				LOCATION: Dalby				Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core loss
POSITION	NAME	START	FINISH	HOURS	Hole #									
DRILLER	sch4p4(6) Personal information	6.00	18.00	12		Casing Set								
OFFSIDER		6.00	18.00	12		DHM								
OFFSIDER		6.00	18.00	12		Ream								
OTHER						Casing Retrieved								
											TOTAL		21.35	

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1				
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID	liq. Pol	25kg
SAFETY MEETING	3		X											3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5				X	X	X	X	X	X	X	X	X	5	8 1/2	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11		X	X										11		CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18													18		OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21													21				
WATER & SET UP	22			X										22	1/2	WATER CARTAGE		kms / hrs
OTHER TIME	23													23		WATER DELIVERY PUMP		Days
STANDBY - CLIENT	24													24		WATER LINE INSTALL		Hours
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG														Total Hours 1/2 11 1/2	
FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT													

COMMENTS: Pre starts + safety meeting - pulled rods out + setup 6m Barrel + Tubes + tripped in - Drilled From 182.84 -> 204.14

DRILLER: sch4p4(6) Perso	MAJOR REP: sch4p4(6) Personal information	CLIENT REP: sch4p4(6) Personal info
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DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER:		17588	No.		70530
RIG:	P70	SHIFT:	DAY NIGHT		
DAY:	FM	DATE:	18-4-08		

CLIENT: Arrow				LOCATION: Dalby				Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core loss
POSITION	NAME	START	FINISH	HOURS	Hole #	P/U	HQ	Core	HQ3	204.19	242.44	38.25		
DRILLER	sch4p4(6) Personal information	6.00	18.00	12		Casing Set								
OFFSIDER		6.00	18.00	12		DHM								
OFFSIDER		6.00	18.00	12		Ream								
OTHER		6.00	18.00	12		Casing Retrieved								
										TOTAL		38.25		

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1		TYPE		
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID		
SAFETY MEETING	3		X											3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5		X	X	X	X	X	X	X	X	X	X	X	5	11	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11													11		CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18													18		OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21													21			kms / hrs	loads
MOVE & SET UP	22													22		WATER CARTAGE		
OTHER TIME	23													23		WATER DELIVERY PUMP	Days	
STANDBY - CLIENT	24													24		WATER LINE INSTALL	Hours	
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG														Total Hours		1/2	1 1/2
FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT															
A. Nugent	T. Muddern	Training - Trippe tube Diamond Drilling + pulling tubes.															

COMMENTS: Pre starts + Tool box - Core from 204.19 → 242.44																	
DRILLER: sch4p4(6) Pers				MAJOR REP: sch4p4(6) Personal information				CLIENT REP: sch4p4(6) Personal inform									

DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER:		17588		No. 70531	
RIG:	P70	SHIFT:	DAY NIGHT		
DAY:	Sch	DATE:	19-4-08		

CLIENT: Arrow				LOCATION: Dalby		Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core loss	
POSITION	NAME	START	FINISH	HOURS	Hole #								
DRILLER	sch4p4(6) Personal information	6.00	18.00	12		Casing Set	HQ	Core	HQ3	242.44	291.19	48.75	
OFFSIDER		6.00	18.00	12		DHM							
OFFSIDER		6.00	18.00	12		Ream							
OTHER		6.00	18.00	12		Casing Retrieved							
										TOTAL		48.75	

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1				
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID	ligo Pol	25 kg
SAFETY MEETING	3		X											3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5		X	X	X	X	X	X	X	X	X	X	X	5	10 1/2	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11													11		CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18													18		OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21							X						21	1/2	WATER CARTAGE	kms / hrs	loads
MOVE & SET UP	22													22	1/2	WATER DELIVERY PUMP	Days	
OTHER TIME	23													23		WATER LINE INSTALL	Hours	
STANDBY - CLIENT	24													24				
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG														Total Hours		1	11
FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT															

COMMENTS: Pre start r Safety Meeting - Cored from 242.44m → 291.19m
 Replaced filtering on hydrolic base for rotation on the head.

DRILLER:	sch4p4(6) Personal information	MAJOR REP:	sch4p4(6) Personal information	CLIENT REP:	sch4p4(6) Personal information
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CLIENT: Arrow					LOCATION: Dalby		Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core lo
POSITION	NAME	START	FINISH	HOURS	Hole #	P/V 3	HQ	Core	HQ 3	241.19	334.29	43.1	
DRILLER	sch4p4(6) Personal information	6.00	18.00	12	Casing Set								
OFFSIDER		6.00	18.00	12	DHM								
OFFSIDER		6.00	18.00	12	Ream								
OTHER		6.00	18.00	12	Casing Retrieved						TOTAL	43.1	

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1		TYPE		
PRE-START CHECKS	2	X												2	Y2	DRILL FLUID	Liqui Pol	25kg
SAFETY MEETING	3	X												3	Y2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5		X	X	X	X	X	X	X	X	X	X	X	5	11	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11													11		CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18													18		OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21													21		WATER CARTAGE	kms / hrs	loads
MOVE & SET UP	22													22		WATER DELIVERY PUMP	Days	
OTHER TIME	23													23		WATER LINE INSTALL	Hours	
STANDBY - CLIENT	24													24				
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG														Total Hours	12	112
FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT														

COMMENTS: Drilled From 291.19 -> 334.29															
DRILLER:	sch4p4(6) Personal information				MAJOR REP:	sch4p4(6) Personal information				CLIENT REP:	sch4p4(6) Personal information				

DIRECTIONAL DRILLING SHIFT REPORT

"THIN...SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER: 17588 No. 70533

RIG: P70 SHIFT: (DAY) NIGHT

DAY: Mon DATE: 21-4-08

CLIENT:	LOCATION:	Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core to
Arrow	Dalby	HQ	Core	HQ3	334.29	369.19	34.9	
POSITION	NAME	START	FINISH	HOURS	Hole #			
DRILLER	sch4p4(6) Personal information	6.00	18.00	12	Casing Set			
OFFSIDER		6.00	18.00	12	DHM			
OFFSIDER		6.00	18.00	12	Ream			
OTHER		6.00	18.00	12	Casing Retrieved			
							TOTAL	34.9

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1		TYPE		
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID	liq. Pol	25kg
SAFETY MEETING	3		X											3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5		X	X	X	X	X	X	X	X	X	X	X	5	10	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11													11		CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18													18		OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21						X							21	1/2	WATER CARTAGE	kms / hrs	loads
MOVE & SET UP	22													22		WATER DELIVERY PUMP	Days	
OTHER TIME	23		X											23	1/2	WATER LINE INSTALL	Hours	
STANDBY - CLIENT	24													24				
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG														Total Hours	1/2	11/2
FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT														

COMMENTS: Other time - Did emergency evacuation drill + test Annalist bag - Breakdown change water swivel.

Drilled from 334.29 -> 369.19

DRILLER: sch4p4(6) Personal information MAJOR REP: sch4p4(6) Personal information CLIENT REP: sch4p4(6) Personal information

DIRECTIONAL DRILLING SHIFT REPORT

"THIN...SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER: 17588 No. 70534
RIG: P-70 SHIFT: DAY NIGHT
DAY: Tue DATE: 22-4-08

CLIENT: Arrow					LOCATION: Dalby		Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core to
POSITION	NAME	START	FINISH	HOURS	Hole #	P/v 3	HQ	Core	HQ 3	369.19	405.19	36	
DRILLER	sch4p4(6) Personal information	6.00	18.00	12	Casing Set								
OFFSIDER		6.00	18.00	12	DHM								
OFFSIDER		6.00	18.00	12	Ream								
OTHER		6.00	18.00	12	Casing Retrieved								
										TOTAL		36	

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1		TYPE		
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID	liq. 701	25 kg
SAFETY MEETING	3	X												3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5		X	X	X	X	X	X	X	X	X	X	X	5	11	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11													11		CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18													18		OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21													21				
MOVE & SET UP	22													22		WATER CARTAGE	kms / hrs	load
OTHER TIME	23													23		WATER DELIVERY PUMP	Days	
STANDBY - CLIENT	24													24		WATER LINE INSTALL	Hours	
STANDBY - MAJOR	25													25		SURVEY SHOTS		
STAND BY - SURVEY	26													26		DEPTH	DIP	AZIMUTH
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG														Total Hours	1/2	11 1/2
FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT														

COMMENTS: Pre starts & Safety Meeting - Drilled from 369.18 → 405.19

DRILLER: sch4p4(6) Per MAJOR REP: sch4p4(6) Pers CLIENT REP: sch4p4(6) Personal information

DIRECTIONAL DRILLING SHIFT REPORT

"THIN. AFE - WORK SAFE"

ABN 46 001 393 139

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER:

17588

No. 70535

RIG:

P 70

SHIFT:

OAY

NIGHT

DAY:

Wed

DATE:

23-4-08

CLIENT: Arrow					LOCATION: Dalby		Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core	
POSITION	NAME	START	FINISH	HOURS	Hole #									
DRILLER	sch4p4(6) Personal information	6.00	18.00	12		P/V 3	HQ	Core	HQ 3	405.19	438.99	27.8	C	
OFFSIDER						Casing Set								
OFFSIDER						DHM								
OFFSIDER						Ream								
OTHER						Casing Retrieved								
										TOTAL				

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qt
TRAVEL TO / FROM	1													1				
PRE-START CHECKS	2	X												2	Y2	DRILL FLUID	LiquiPol	20 L
SAFETY MEETING	3		X											3	Y2	DRILL FLUID	CR650	15 kg
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5			X	X	X	X	X	X	X	X	X	X	5	9	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11													11		CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18													18		OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21		X	X	X	X								21				
MOVE & SET UP	22													22		WATER CARTAGE	kms / hrs	loa
OTHER TIME	23													23		WATER DELIVERY PUMP	Days	
STANDBY - CLIENT	24													24		WATER LINE INSTALL	Hours	
STANDBY - MAJOR	25													25		SURVEY SHOTS		
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG

Total Hours

142 10 36.

FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT

COMMENTS: Core from 405.19 to 438.99 Breakdown / Maintenance - Filter attending to leaks.

DRILLER:	sch4p4(6) Pers	MAJOR REP:	sch4p4(6) Personal information	CLIENT REP:	sch4p4(6) Personal information
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CLIENT: ARROW					LOCATION: Dalby		Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core to
POSITION	NAME	START	FINISH	HOURS	Hole #	P/U 3.	HQ	Core	HQ ^S	432.97	462.19	29.2	0
DRILLER	sch4p4(6) Personal information	6.00	18.00	12	Casing Set								
OFFSIDER		6.00	18.00	12	DHM								
OFFSIDER		6.00	18.00	12	Ream								
OTHER						Casing Retrieved					TOTAL		

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1				
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID	CR 650	15kg
SAFETY MEETING	3			X										3		sch4p4(6) P	DRILL FLUID	
JSA / HAZ-OB, etc	4													4			DRILL FLUID	
DRILL - DIAMOND CORE	5				X	X	X	X	X	X	X	X	X	5		9 1/2	DRILL FLUID	
DHM DRILLING	6													6			DRILL FOAM	
REAM DHM CYCLE	7													7			ROD GREASE	25kg
CUT LIP	8													8			SOLUBLE OIL	
SURVEY - IN LINE/LOGGING	9													9			CASING - STEEL	
SURVEY - BOTTOM HOLE	10													10			CASING - PVC	
TRIP RODS	11													11			CEMENT	
TRIP RODS - DHM	12													12			GYPSET	
TRIP RODS - SURVEY	13													13			SI-FOAM A & B	
BOGGED / FISHING	14													14			PLUG / PACKER	
CASING - SET/REAM	15													15			SODA ASH	
REAM / OPEN OUT HOLE	16													16			SALT / KCL	
MIXING MUD	17													17		1/2	OTHER	
CONDITIONING HOLE	18													18		1/2	OTHER	
CEMENT - HOLE	19													19			OTHER	
CEMENT - DRYING TIME	20													20			sch4p4(6)	DIESEL
MAINTENANCE/BREAKDOWN	21	X	X											21		1 1/2		
MOVE & SET UP	22													22			WATER CARTAGE	kms / hrs
OTHER TIME	23													23			WATER DELIVERY PUMP	Days
STANDBY - CLIENT	24													24			WATER LINE INSTALL	Hours
STANDBY - MAJOR	25													25			SURVEY SHOTS	
STAND BY - SURVEY	26													26			DEPTH	DIP
BREAKDOWN - SURVEY	27													27			AZIMUTH	
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG

Total Hours

1/2

11 1/2

FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT

COMMENTS: Rebit Bull hose & swivel Prestart Mix mud & condition hole (remedy rod chatter) Core from 438.99 to 462.19

DRILLER: sch4p4(6) Person	MAJOR REP: sch4p4(6) Person	CLIENT REP: sch4p4(6) Personal information
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DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER:

17588

No.

70537

RIG:

Su 12 P70

SHIFT:

DAY

NIGHT

DAY:

Fri

DATE:

25-4-08

CLIENT: ARROW					LOCATION: Dalby.		Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core k
POSITION	NAME	START	FINISH	HOURS	Hole #	P/V 3	HQ	Core	HQS	462.19	498.19	36	←
DRILLER	sch4p4(6) Personal information	6.00	6.00	12	Casing Set								
OFFSIDER		6.00	6.00	12	DHM								
OFFSIDER		6.00	6.00	12	Ream								
OTHER		6.00	6.00	12	Casing Retrieved								
										TOTAL		36	

OPERATION - TIME LOG																MAJOR	CLIENT	CHARGEABLE ITEMS		Item/size	Qty	
TRAVEL TO / FROM	1																					
PRE-START CHECKS	2	X																				
SAFETY MEETING	3		X																			
JSA / HAZ-OB, etc	4																					
DRILL - DIAMOND CORE	5			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
DHM DRILLING	6																					
REAM DHM CYCLE	7																					
CUT LIP	8																					
SURVEY - IN LINE/LOGGING	9																					
SURVEY - BOTTOM HOLE	10																					
TRIP RODS	11																					
TRIP RODS - DHM	12																					
TRIP RODS - SURVEY	13																					
BOGGED / FISHING	14																					
CASING - SET/REAM	15																					
REAM / OPEN OUT HOLE	16																					
MIXING MUD	17																					
CONDITIONING HOLE	18																					
CEMENT - HOLE	19																					
CEMENT - DRYING TIME	20																					
MAINTENANCE/BREAKDOWN	21																					
MOVE & SET UP	22																					
OTHER TIME	23																					
STANDBY - CLIENT	24																					
STANDBY - MAJOR	25																					
STAND BY - SURVEY	26																					
BREAKDOWN - SURVEY	27																					
MOBILISATION / DEMOB	28																					

TRAINING, INSTRUCTION & INCIDENT LOG

Total Hours

1 1/2

11 1/2

FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT

COMMENTS: prestarts, toolbox meeting, core from 462.19 to 498.19m, flush and pull back 6m,

DRILLER:	sch4p4(6) Personal information	MAJOR REP:	sch4p4(6) Personal information	CLIENT REP:	sch4p4(6) Personal information
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DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER:		17588		No. 70538	
RIG:	P70	SHIFT:	DAY NIGHT		
DAY:	Sat	DATE:	26-4-08		

CLIENT: Arrow				LOCATION: Dalby		Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core lo
POSITION	NAME	START	FINISH	HOURS	Hole #							
DRILLER	sch4p4(6) Personal information	6:00	6:00	12		Casing Set						
OFFSIDER		6:00	6:00	12		DHM						
OFFSIDER		6:00	6:00	12		Ream						
OTHER		6:00	6:00	12		Casing Retrieved						
								TOTAL		1.81		

OPERATION - TIME LOG													6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS		Item/size	Qty
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6				TYPE									
TRAVEL TO / FROM	1	X																	1												
PRE-START CHECKS	2	X	X																2	1/2		DRILL FLUID	CR 650	15Kg	1						
SAFETY MEETING	3		X																3	1/2		DRILL FLUID									
JSA / HAZ-OB, etc	4																		4			DRILL FLUID									
DRILL - DIAMOND CORE	5			X	X														5	1		DRILL FLUID									
DHM DRILLING	6																		6			DRILL FOAM									
REAM DHM CYCLE	7																		7			ROD GREASE									
CUT LIP	8																		8			SOLUBLE OIL									
SURVEY - IN LINE/LOGGING	9																		9			CASING - STEEL									
SURVEY - BOTTOM HOLE	10																		10			CASING - PVC									
TRIP RODS	11					X	X	X	X						X	X		X	X	X	X										
TRIP RODS - DHM	12																		12			GYPSET									
TRIP RODS - SURVEY	13																		13			SI-FOAM A & B									
BOGGED / FISHING	14					X	X	X	X	X	X	X	X						14	4		PLUG / PACKER									
CASING - SET/REAM	15																		15			SODA ASH									
REAM / OPEN OUT HOLE	16																		16			SALT / KCL									
MIXING MUD	17																		17			OTHER									
CONDITIONING HOLE	18																		18			OTHER									
CEMENT - HOLE	19																		19			OTHER									
CEMENT - DRYING TIME	20																		20			DIESEL									
MAINTENANCE/BREAKDOWN	21																		21												
MOVE & SET UP	22																		22			WATER CARTAGE		kms / hrs	load						
OTHER TIME	23																		23			WATER DELIVERY PUMP		Days							
STANDBY - CLIENT	24														X	X			24	1		WATER LINE INSTALL		Hours							
STANDBY - MAJOR																															

TRAINING, INSTRUCTION & INCIDENT LOG			Total Hours	$\frac{1}{2}$	$11\frac{1}{2}$
FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT			

COMMENTS: prestart, safety meeting, core to 500m and lost water pressure, stop rotation and still penetrate/slow rotation and go down to 504.19m (rod string broken) trip out rods, 44 rods, trip in with carrot tap and retrieve barrel and rod string, run back in to 5 rods of bottom. (standby - wait for client decision to keep drill

DRILLER: sch4p4(6) Personal information MAJOR REP: sch4p4(6) CLIENT REP: sch4p4(6) Personal Page 161 of 100

DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER:

17538

No.

70539

RIG:

P70

SHIFT:

DAY

NIGHT

DAY:

Sun

DATE:

27-4-8

CLIENT: Arrow					LOCATION: Dalby		Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core lo
POSITION	NAME	START	FINISH	HOURS	Hole #								
DRILLER	sch4p4(6) Personal information	6:00	6:00	12		Casing Set							
OFFSIDER		6:00	6:00	12		DHM							
OFFSIDER		6:00	6:00	12		Ream							
OTHER		6:00	6:00	12		Casing Retrieved							
										TOTAL		25.19	

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1				
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID	Liquipol	25L
SAFETY MEETING	3		X											3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5			X	X	X	X	X	X	X	X	X	X	5	10 1/2	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11		X											11	1/4	CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17		X											17	1/4	OTHER		
CONDITIONING HOLE	18													18		OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21													21			kms / hrs	loads
MOVE & SET UP	22													22		WATER CARTAGE		
OTHER TIME	23													23		WATER DELIVERY PUMP	Days	
STANDBY - CLIENT	24													24		WATER LINE INSTALL	Hours	
STANDBY - MAJOR	25													25		SURVEY SHOTS		
STAND BY - SURVEY	26													26		DEPTH	DIP	AZIMUTH
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG

Total Hours

1/2 11 1/2

FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT
sch4p4(6) Personal information		add a reel, start and finish a run.

COMMENTS: prestarts, safety meeting, trip in 5 rods and mix KCL (reduced polymer and added 3% KCL at clients request), cored from 500m to 525.19m, (mostly barrel ground, reduced rotation speed to avoid reel chatter).

DRILLER:	sch4p4(6) Personal information	MAJOR REP:	sch4p4(6) Personal information	CLIENT REP:	sch4p4(6) Personal information
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DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

ABN 46 001 393 139

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER: 17588 No. 70540
RIG: P70 SHIFT: DAY NIGHT
DAY: Mon DATE: 28-4-08

CLIENT:	LOCATION:	Size	Drilling Type	Bit Type	Start m	Finish m	Drilled m	Core lo
Arrow	Dalby	HQ	Core	HQ3	525.19	549.19	24	
POSITION	NAME	START	FINISH	HOURS	Hole #			
DRILLER	sch4p4(6) Personal information	6.00	6.00	12	P/v 3	Casing Set		
OFFSIDER		6.00	6.00	12		DHM		
OFFSIDER		6.00	6.00	12		Ream		
OTHER		6.00	6.00	12		Casing Retrieved		
							TOTAL	24

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1		TYPE		
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID	Liquid Pol	25.4
SAFETY MEETING	3	X												3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5		X	X	X	X	X	X	X	X	X	X	X	5	10 1/2	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11													11		CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER HQ3 Lifter		2
CONDITIONING HOLE	18												X	18	1/2	OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21													21			kms / hrs	loads
MOVE & SET UP	22													22		WATER CARTAGE		
OTHER TIME	23													23		WATER DELIVERY PUMP	Days	
STANDBY - CLIENT	24													24		WATER LINE INSTALL	Hours	
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT
sch4p4(6) Personal information		Drilling is run, setting a tube.

COMMENTS: prestarts, safety meeting, core from 525.19 to 549.19m. (Hard ground all shift)

DRILLER: sch4p4(6) Personal information MAJOR REP: sch4p4(6) Personal information CLIENT REP: sch4p4(6) Personal information

DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER: 17588		No. 70541	
RIG: P70	SHIFT: DAY	NIGHT	
DAY: Tues	DATE: 29-4-8		

CLIENT: Arrow				LOCATION: Dalby				Size: HQ	Drilling Type: Core	Bit Type: HQ3	Start m: 549.19	Finish m: 564.19	Drilled m: 15	Core l: -
POSITION	NAME	START	FINISH	HOURS	Hole #									
DRILLER	sch4p4(6) Personal information	6.00	6.00	12		Casing Set								
OFFSIDER		6.00	6.00	12		DHM								
OFFSIDER		6.00	6.00	12		Ream								
OTHER		6.00	6.00	12		Casing Retrieved								
											TOTAL	15		

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1													1		TYPE		
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID	Lignifol	25 Lt
SAFETY MEETING	3		X											3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5		X	X	X	X	X	X	X	X	X	X	X	5	7	DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11									X	X	X	X	11	2	CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18								X	X	X	X		18	2	OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21													21		WATER CARTAGE	kms / hrs	load
MOVE & SET UP	22													22		WATER DELIVERY PUMP	Days	
OTHER TIME	23													23		WATER LINE INSTALL	Hours	
STANDBY - CLIENT	24													24				
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG														Total Hours		12	11 1/2
FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT															

COMMENTS: prestarts, safety meeting, core from 549.19 m to 564.19 m, (Hard ground), flush hole with KCL, displace mud in hole with fresh water, and trip out for logging, ECH.

DRILLER: sch4p4(6) Personal information	MAJOR REP: sch4p4(6) Perso	CLIENT REP: sch4p4(6) Personal information
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CLIENT: Arran					LOCATION: Darby		Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core
POSITION	NAME	START	FINISH	HOURS	Hole #								
DRILLER	sch4p4(6) Personal information	6.00	6.06	12		Casing Set	14Q	Core	14Q3				
OFFSIDER		6.00	6.00	12		DHM							
OFFSIDER		6.00	6.00	12		Ream							
OTHER		6.00	6.06	12		Casing Retrieved							
										TOTAL			

OPERATION - TIME LOG	6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qt
TRAVEL TO / FROM	1													1		TYPE		
PRE-START CHECKS	2	X												2	1/2	DRILL FLUID		
SAFETY MEETING	3	X												3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4													4		DRILL FLUID		
DRILL - DIAMOND CORE	5													5		DRILL FLUID		
DHM DRILLING	6													6		DRILL FOAM		
REAM DHM CYCLE	7													7		ROD GREASE		
CUT LIP	8													8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9													9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10													10		CASING - PVC		
TRIP RODS	11							X	X	X	X	X		11	3 1/2	CEMENT		
TRIP RODS - DHM	12													12		GYPSET		
TRIP RODS - SURVEY	13													13		SI-FOAM A & B		
BOGGED / FISHING	14													14		PLUG / PACKER		
CASING - SET/REAM	15													15		SODA ASH		
REAM / OPEN OUT HOLE	16													16		SALT / KCL		
MIXING MUD	17													17		OTHER		
CONDITIONING HOLE	18											X	X	18	2	OTHER		
CEMENT - HOLE	19													19		OTHER		
CEMENT - DRYING TIME	20													20		DIESEL		
MAINTENANCE/BREAKDOWN	21													21			kms / hrs	loa
MOVE & SET UP	22													22		WATER CARTAGE		
OTHER TIME	23													23		WATER DELIVERY PUMP	Days	
STANDBY - CLIENT	24		X	X	X	X	X	X	X	X	X	X		24	5 1/2	WATER LINE INSTALL	Hours	
STANDBY - MAJOR	25													25				
STAND BY - SURVEY	26													26				
BREAKDOWN - SURVEY	27													27				
MOBILISATION / DEMOB	28													28				

TRAINING, INSTRUCTION & INCIDENT LOG

Total Hours

1/2 11 1/2

FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT

COMMENTS: prestarts, safety meeting, standby - waiting for logger to arrive and run dummy, (hung up at 46m), trip in rods to 12m off bottom and flush, pull back 6m, standby.

DRILLER:	sch4p4(6) Personal inform	MAJOR REP:	sch4p4(6) Perso	CLIENT REP:	sch4p4(6) Personal infor
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DIRECTIONAL DRILLING SHIFT REPORT

"THINK SAFE - WORK SAFE"

42 Suscatand Street, Rocklea QLD 4106 Tel: 07 3850 4750 Fax: 07 3850 4700

JOB NUMBER:		17588		No. 70543	
RIG:	P70	SHIFT:	DAY NIGHT		
DAY:	Thurs	DATE:	1-5-08		

CLIENT: Arrow				LOCATION: Dalby				Size	Drilling Type	Bit Type.	Start m	Finish m	Drilled m	Core loss	
POSITION	NAME	START	FINISH	HOURS	Hole #										
DRILLER	sch4p4(6) Personal informati	6.00	6.00	12		Casing Set									
OFFSIDER		6.00	6.00	12		DHM									
OFFSIDER		6.00	6.00	12		Ream									
OTHER		6.00	6.00	12		Casing Retrieved									
											TOTAL				

OPERATION - TIME LOG		6	7	8	9	10	11	12	1	2	3	4	5	6	MAJOR	CLIENT	CHARGEABLE ITEMS	Item/size	Qty
TRAVEL TO / FROM	1														1		TYPE		
PRE-START CHECKS	2	X													2	1/2	DRILL FLUID		
SAFETY MEETING	3		X												3	1/2	DRILL FLUID		
JSA / HAZ-OB, etc	4														4		DRILL FLUID		
DRILL - DIAMOND CORE	5														5		DRILL FLUID		
DHM DRILLING	6														6		DRILL FOAM		
REAM DHM CYCLE	7														7		ROD GREASE		
CUT LIP	8														8		SOLUBLE OIL		
SURVEY - IN LINE/LOGGING	9														9		CASING - STEEL		
SURVEY - BOTTOM HOLE	10														10		CASING - PVC		
TRIP RODS	11			X	X	X	X	X							11	2 1/2	CEMENT		
TRIP RODS - DHM	12														12		GYPSET		
TRIP RODS - SURVEY	13														13		SI-FOAM A & B		
BOGGED / FISHING	14														14		PLUG / PACKER		
CASING - SET/REAM	15														15		SODA ASH		
REAM / OPEN OUT HOLE	16														16		SALT / KCL		
MIXING MUD	17														17		OTHER		
CONDITIONING HOLE	18		X	X											18	1	OTHER		
CEMENT - HOLE	19														19		OTHER		
CEMENT - DRYING TIME	20														20		DIESEL		
MAINTENANCE/BREAKDOWN	21														21			kms / hrs	loads
MOVE & SET UP Rig down	22								X	X	X	X	X	X	22	3	WATER CARTAGE		
OTHER TIME	23														23		WATER DELIVERY PUMP	Days	
STANDBY - CLIENT	24				X	X	X	X	X	X	X	X	X		24	4 1/2	WATER LINE INSTALL	Hours	
STANDBY - MAJOR	25														25				
STAND BY - SURVEY	26														26				
BREAKDOWN - SURVEY	27														27				
MOBILISATION / DEMOB	28														28				

TRAINING, INSTRUCTION & INCIDENT LOG															Total Hours		1 1/2	11 1/2
FROM	TO	DESCRIPTION OF TRAINING / INSTRUCTION / WARNING / ENVIRONMENT / HAZARD / INCIDENT																

COMMENTS: prestarts, safety meeting, flush hole and displace mud w fresh water, trip out rods, standby for logger, rig down & pack up site.

DRILLER:	MAJOR REP:	CLIENT REP:
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APPENDIX 6 DESORPTION REPORT

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EARTH DATA

Geological & Earth Science Consultants

Arrow Energy

Plainview 3

Gas Desorption Analysis Report

Prepared by
Earth Data Pty Ltd
October 2008

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Plainview 3

Gas Desorption Analysis Report

1. Introduction

During April 2008 Earth Data Pty Ltd were engaged by Arrow Energy (Arrow) to provide gas desorption analysis services for core samples taken from the Plainview 3 corehole. This report provides procedural details and final results of the gas desorption analysis.

2. Desorption Services

Desorbable gas measurements were made on 95cm or 50cm long (approx.) HQ size (61.5mm diameter) wireline retrieved coal core samples taken from selected seams intersected in the hole.

Coal cores were placed in pressure tested gas tight canisters as soon as possible after reaching the surface. Measurements of desorbable gas were made at approximate reservoir temperature on the well site and ultimately at Earth Data's Maitland facility until instructed by Arrow to cease canister desorption measurements. In general, desorption measurements continued for between 60 and 72 days. At the end of canister desorption the void space of each canister was measured using a reference cell, coal and non coal portions of each sample were weighed, the core photographed and selected representative sub samples were analysed for residual gas. Core samples were slabbed following residual gas analysis, with one half used for analytical purposes and the remainder packaged and returned to Arrow.

2.1 Desorbable Gas (Q2)

Measurement of desorbable gas was performed at the well site and at Earth Data's Maitland facility using inverted water filled measuring cylinders¹. Gas was inlet above the inverted cylinder water level and bleed valves on the canisters were closed between successive readings to reduce the possibility of carbon dioxide absorption by the water in the inverted cylinders. Readings were made frequently to minimise pressure build up in canisters between successive readings. All measured desorbable gas was corrected to Standard Temperature and Pressure (STP – 293.15K and 1 Atmosphere) using the method described in Australian Standard AS 3980-1999 with the exception that

¹ This method is described completely in Australian Standard AS3980-1999 - "Guide to the Determination of Gas Content of Coal - Direct Desorption Method.

canister void space temperature was measured and not assumed equal to ambient temperature. The Q2 readings are included in Appendix I.

2.2 Lost Gas (Q1)

Lost gas was calculated using both the modified USBM method² using actual lost gas time, and the Smith and Williams method³.

Time zero was calculated assuming a normal formation pressure gradient and known mud weight and depth to determine the depth at which formation pressure equalled hydrostatic pressure. The time this depth was reached during the trip out was calculated by measuring the rate of wireline retrieval.

The modified USBM calculation of Q1 has been used for the total desorbable gas calculations of all samples.

2.3 Residual Gas (Q3)

Residual gas was measured immediately after removing the coal from the canister. Coal sub samples weighing approximately 200 grams were taken from the desorption samples and pulverised to liberate residual gas.

Corrections were made to the liberated gas volume for ambient air temperature and pressure changes and for void space temperature changes during crushing⁴. Ash and moisture analysis of the coal sample used to measure residual gas was carried out following crushing to allow reporting of the residual gas on a dry ash free basis. Q3 results are tabulated in Appendix I.

2.4 Total Desorbable Gas

The corrected gas volumes for lost, desorbable, and residual gas were equated to their relevant coal masses to produce as received (raw) results in m³/tonne. Ash, moisture and relative density analyses performed on a half core sub sample of the coal portion of each canister sample were used to correct raw lost and desorbable gas content results to a dry ash free (DAF) basis. The DAF lost, desorbable and residual gas contents were summed to give total desorbable gas content for each sample. In cases where more than one desorption sample was taken from a single seam the DAF mass percent of each desorption sample was used to calculate the weighted average dry ash free total desorbable gas content for the seam.

² This calculation is described in Smith and Williams' paper - Direct Method of Determining the Methane Content of Coal - A Modification

³ This calculation is described in Smith and Williams' paper - A New Technique for Determining the Methane Content of Coal

⁴ Not covered by the Australian Standard

2.5 Gas Composition

Gas composition samples were taken from selected desorption samples. Compositional analysis and reporting of results were handled internally by Arrow.

3. Results

Gas content results are presented in Table 1 and in full in Appendix I.

Sample ID	Seam	Top	Base	Desorption Sample Total Desorbable Gas (m ³ /tonne DAF)	Sorption Time (Days)
PV3ED565		172.500	173.500	2.45	22.73
PV3ED244		188.180	189.170	2.56	30.41
PV3ED216		190.090	190.450	2.80	14.26
PV3ED033		223.330	223.810	2.21	4.95
PV3ED255		232.620	233.020	3.85	16.00
PV3ED100		270.560	271.590	3.91	17.02
PV3ED622		273.590	274.550	4.36	13.84
PV3ED158		302.070	302.900	2.97	7.13
PV3ED308		315.810	316.140	4.76	5.99
PV3ED070		323.580	324.060	3.49	25.89
PV3ED580		325.490	326.270	4.92	15.94
PV3ED236		327.870	328.800	3.27	6.36
PV3ED276		343.080	343.420	4.91	18.27
PV3ED695		398.630	399.110	4.79	11.92
PV3ED581		410.010	410.490	5.90	4.94
PV3ED666		415.450	416.460	2.32	12.10
PV3ED682		418.550	419.160	4.17	Not Reached
PV3ED227		449.800	450.210	7.53	8.58
PV3ED549		450.470	451.490	4.13	6.00
PV3ED696		451.490	452.540	2.08	6.00
Weighted Average		449.800	452.540	3.56	
PV3ED011		459.810	460.820	1.88	5.58
PV3ED036		461.330	462.350	3.45	5.58
PV3ED102		464.760	465.720	2.96	Not Reached
PV3ED681		465.990	467.030	5.10	35.13
Weighted Average		464.760	467.030	4.06	
PV3ED687		469.050	469.560	5.50	43.08
PV3ED683		478.940	479.490	4.76	26.52
PV3ED088		479.690	480.370	4.33	Not Reached
Weighted Average		478.940	480.370	4.53	

Table 1: Desorption Sample Location and Gas Content

4. References

Australian Standard AS3980-1999 - "Guide to the Determination of Gas Content of Coal - Direct Desorption Method," Standards Australia, 33pp.

Smith, D. M. and Williams, F. L., 1981, "A New Method for Determining the Methane Content of Coal," Proceedings of the 16th Symposium of the Intersociety Energy Conversion Engineering Conference, Atlanta, Georgia, pp. 1267-1272

Smith, D. M. and Williams, F. L., 1981, "Direct Method of Determining the Methane Content of Coal - A Modification," Fuel, Vol. 63, pp. 425-427

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Appendix I

Lost and Desorbable Gas Readings and Curves, Residual Gas Tabulations

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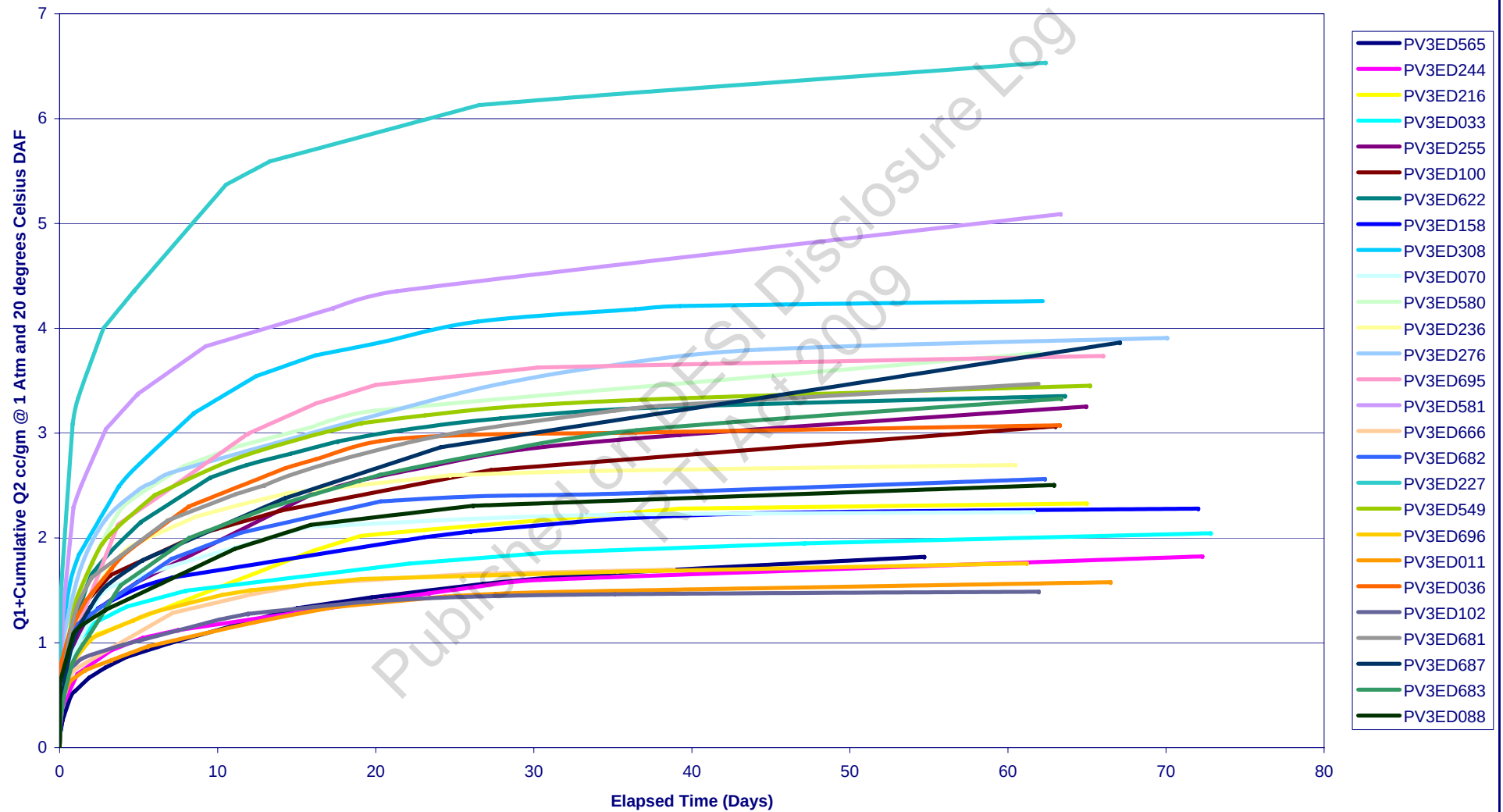
Arrow Energy Plainview 3 - Gas Desorption Analysis Summary

Sample ID	Seam/Ply	Can Date	Depth Top (mMD)	Depth Base (mMD)	Q1 (m³/tonne) Raw	Q1 (m³/tonne) daf	Q2 (m³/tonne) Raw	Q2 (m³/tonne) daf	Q3 (m³/tonne) Raw	Q3 (m³/tonne) daf	Q1+Q2+Q3 (m³/tonne) daf	Sorption Time (Days)	Diffusivity (sec⁻¹)
PV3ED565		16/04/2008	172.500	173.500	0.05	0.06	1.50	1.76	0.54	0.63	2.45	22.73	3.21790E-06
PV3ED244		17/04/2008	188.180	189.170	0.09	0.11	1.41	1.71	0.60	0.73	2.56	30.41	6.44729E-06
PV3ED216		17/04/2008	190.090	190.450	0.13	0.18	1.62	2.15	0.35	0.47	2.80	14.26	1.64431E-05
PV3ED033		18/04/2008	223.330	223.810	0.11	0.16	1.32	1.89	0.12	0.17	2.21	4.95	1.70514E-05
PV3ED255		18/04/2008	232.620	233.020	0.07	0.13	1.86	3.13	0.35	0.59	3.85	16.00	5.70169E-06
PV3ED100		19/04/2008	270.560	271.590	0.17	0.23	2.13	2.84	0.63	0.85	3.91	17.02	1.08764E-05
PV3ED622		19/04/2008	273.590	274.550	0.18	0.21	2.64	3.14	0.84	1.00	4.36	13.84	7.48621E-06
PV3ED158		20/04/2008	302.070	302.900	0.16	0.20	1.70	2.08	0.57	0.69	2.97	7.13	1.51417E-05
PV3ED308		20/04/2008	315.810	316.140	0.25	0.30	3.30	3.96	0.42	0.50	4.76	5.99	1.55102E-05
PV3ED070		20/04/2008	323.580	324.060	0.18	0.21	1.80	2.04	1.10	1.25	3.49	25.89	1.09675E-05
PV3ED580		20/04/2008	325.490	326.270	0.23	0.28	2.92	3.49	0.97	1.16	4.92	15.94	7.85677E-06
PV3ED236		20/04/2008	327.870	328.800	0.22	0.26	2.00	2.43	0.47	0.57	3.27	6.36	1.69824E-05
PV3ED276		21/04/2008	343.080	343.420	0.20	0.28	2.55	3.63	0.70	1.00	4.91	18.27	1.08478E-05
PV3ED695		22/04/2008	398.630	399.110	0.18	0.24	2.60	3.50	0.78	1.05	4.79	11.92	1.14814E-05
PV3ED581		23/04/2008	410.010	410.490	0.17	0.30	2.80	4.79	0.47	0.81	5.90	4.94	1.20152E-05
PV3ED666		23/04/2008	415.450	416.460	0.18	0.23	1.12	1.47	0.48	0.62	2.32	12.10	3.39671E-05
PV3ED682		23/04/2008	418.550	419.160	0.21	0.27	1.76	2.29	1.23	1.61	4.17	Not Reached	1.52129E-05
PV3ED227		24/04/2008	449.800	450.210	0.37	0.80	2.68	5.73	0.46	0.99	7.53	8.58	3.43676E-05
PV3ED549		24/04/2008	450.470	451.490	0.10	0.23	1.45	3.22	0.31	0.68	4.13	6.00	6.48836E-06
PV3ED696		24/04/2008	451.490	452.540	0.22	0.29	1.15	1.47	0.25	0.32	2.08	6.00	4.23408E-05
PV3ED011		24/04/2008	459.810	460.820	0.17	0.23	1.03	1.35	0.23	0.30	1.88	5.58	3.85167E-05
PV3ED036		24/04/2008	461.330	462.350	0.27	0.38	1.92	2.70	0.27	0.37	3.45	5.58	3.73568E-05
PV3ED102		25/04/2008	464.760	465.720	0.16	0.21	0.97	1.27	1.12	1.47	2.96	Not Reached	1.28013E-05
PV3ED681		25/04/2008	465.990	467.030	0.13	0.16	2.76	3.31	1.36	1.63	5.10	35.13	3.85458E-06
PV3ED687		25/04/2008	469.050	469.560	0.12	0.14	3.10	3.73	1.36	1.64	5.50	43.08	1.98148E-06
PV3ED683		25/04/2008	478.940	479.490	0.08	0.11	2.49	3.22	1.11	1.43	4.76	26.52	2.02359E-06
PV3ED088		25/04/2008	479.690	480.370	0.24	0.35	1.48	2.16	1.25	1.82	4.33	Not Reached	2.49454E-05

Arrow Energy Plainview 3 Residual Gas Calculation

Sample ID	Sample Mass (g)	Absolute Ambient Air Pressure at Sealing (hPa)	Ambient Air Temperature at Sealing (°C)	Internal Mill Temperature at Sealing (°C)	Milling Duration (seconds)	Measured Gas Volume (cc)	Height of Water in Measuring Cylinder Above Reservoir Level (mm)	Absolute Ambient Air Pressure at Bleeding (hPa)	Ambient Air Temperature at Bleeding (°C)	Internal Mill Temperature at Bleeding (°C)	Head Space Correction (cc)	Raw Residual Gas Volume @ 1 Atm and 20 deg C (cc)	Head Space Corrected Raw Residual Gas Volume @ 1 Atm and 20 deg C (cc)	Percentage of Sample <212 µm	ADB Ash Percentage of <212 µm Fraction	ADB Moisture Percentage of <212 µm Fraction	Raw Residual Gas Content @ 1 Atm and 20 deg C (cc/gm)	Dry Ash Free Residual Gas Content @ 1 Atm and 20 deg C (cc/gm)	Comment
PV3ED565	200	1028.2	21.3	21.0	90	140	275	1028.0	20.5	23.5	30.5	138.1	107.6	100.0	6.6	8.4	0.54	0.63	
PV3ED244	200	1020.1	21.0	21.0	90	150	265	1020.1	21.0	22.5	26.7	146.7	120.0	100.0	10.1	7.8	0.60	0.73	
PV3ED216	200	1020.5	20.7	21.5	90	100	275	1020.5	21.0	23.0	27.6	97.7	70.2	100.0	15.9	9.0	0.35	0.47	
PV3ED033	200	1019.1	21.0	21.0	90	50	285	1019.1	21.0	21.5	25.5	48.8	23.3	100.0	22.8	7.2	0.12	0.17	
PV3ED255	200	1019.3	22.0	25.5	90	100	275	1019.3	22.0	26.8	26.9	97.3	70.3	100.0	32.5	8.2	0.35	0.59	
PV3ED100	200	1019.5	22.0	27.9	90	150	260	1019.5	22.0	27.0	19.2	146.2	127.0	100.0	18.8	6.2	0.63	0.85	
PV3ED622	200	1019.3	22.0	26.8	90	200	255	1019.3	22.0	28.5	26.4	195.0	168.6	100.0	9.2	6.7	0.84	1.00	
PV3ED158	200	1019.3	22.0	27.8	90	150	265	1019.3	22.0	31.2	32.2	146.1	113.9	100.0	11.2	6.8	0.57	0.69	
PV3ED308	200	1019.5	21.5	28.3	90	120	270	1019.5	21.5	32.1	33.7	117.0	83.3	100.0	10.0	6.6	0.42	0.50	
PV3ED070	200	1019.3	21.0	28.0	90	260	250	1019.3	21.0	32.8	34.9	254.5	219.6	100.0	6.7	5.3	1.10	1.25	
PV3ED580	200	1019.5	21.0	28.3	90	250	260	1019.5	21.0	38.2	50.5	244.5	193.9	100.0	10.2	6.1	0.97	1.16	
PV3ED236	200	1020.1	21.5	27.5	90	150	280	1020.1	21.5	37.2	51.8	146.2	94.4	100.0	12.1	5.7	0.47	0.57	
PV3ED276	200	1020.1	21.5	28.1	90	200	270	1020.1	21.5	39.2	54.9	195.2	140.3	100.0	24.1	5.7	0.70	1.00	
PV3ED695	200	1019.1	21.0	24.2	90	220	265	1019.1	21.0	36.8	59.3	215.0	155.6	100.0	17.7	8.1	0.78	1.05	
PV3ED581	200	1019.5	21.3	28.5	90	150	270	1019.5	21.3	38.5	51.7	146.4	94.7	100.0	35.8	5.7	0.47	0.81	
PV3ED666	200	1019.0	21.0	29.3	90	150	265	1019.0	21.0	39.3	51.2	146.5	95.4	100.0	18.4	5.3	0.48	0.62	
PV3ED682	200	1019.3	21.0	31.1	90	300	230	1019.3	21.0	41.0	47.6	294.2	246.6	100.0	16.8	6.4	1.23	1.61	
PV3ED227	200	1019.0	21.0	28.2	90	150	275	1019.0	21.0	38.7	53.6	146.4	92.8	100.0	47.4	5.9	0.46	0.99	
PV3ED549	200	1019.0	21.0	30.0	90	120	280	1019.0	21.0	41.1	55.6	117.1	61.4	100.0	47.0	8.0	0.31	0.68	
PV3ED696	200	1019.0	22.0	33.0	90	100	275	1019.0	22.0	41.2	46.6	97.3	50.7	100.0	17.6	4.4	0.25	0.32	
PV3ED011	200	1019.1	21.0	32.0	90	100	270	1019.1	21.0	42.1	51.7	97.7	46.0	100.0	19.1	4.3	0.23	0.30	
PV3ED036	200	1018.2	20.3	24.1	90	100	270	1018.2	20.3	31.5	44.5	97.8	53.3	100.0	23.9	5.0	0.27	0.37	
PV3ED102	200	1019.1	21.0	25.0	90	280	265	1019.1	21.0	34.2	49.3	273.6	224.3	100.0	19.8	3.9	1.12	1.47	
PV3ED681	200	1019.3	21.3	26.3	90	330	235	1019.3	21.3	37.2	51.4	323.1	271.7	100.0	12.2	4.4	1.36	1.63	
PV3ED687	200	1020.0	22.0	32.0	90	330	225	1020.0	22.0	43.0	50.2	322.9	272.7	100.0	11.8	4.9	1.36	1.64	
PV3ED683	200	1019.0	21.1	26.2	90	280	250	1019.0	21.1	37.1	52.8	273.9	221.1	100.0	18.5	4.2	1.11	1.43	
PV3ED088	200	1018.5	21.0	23.2	90	300	240	1018.5	21.0	31.2	43.7	293.7	250.0	100.0	26.3	5.2	1.25	1.82	

Arrow Energy Plainview 3 - Lost+Desorbed Gas vs Elapsed Time

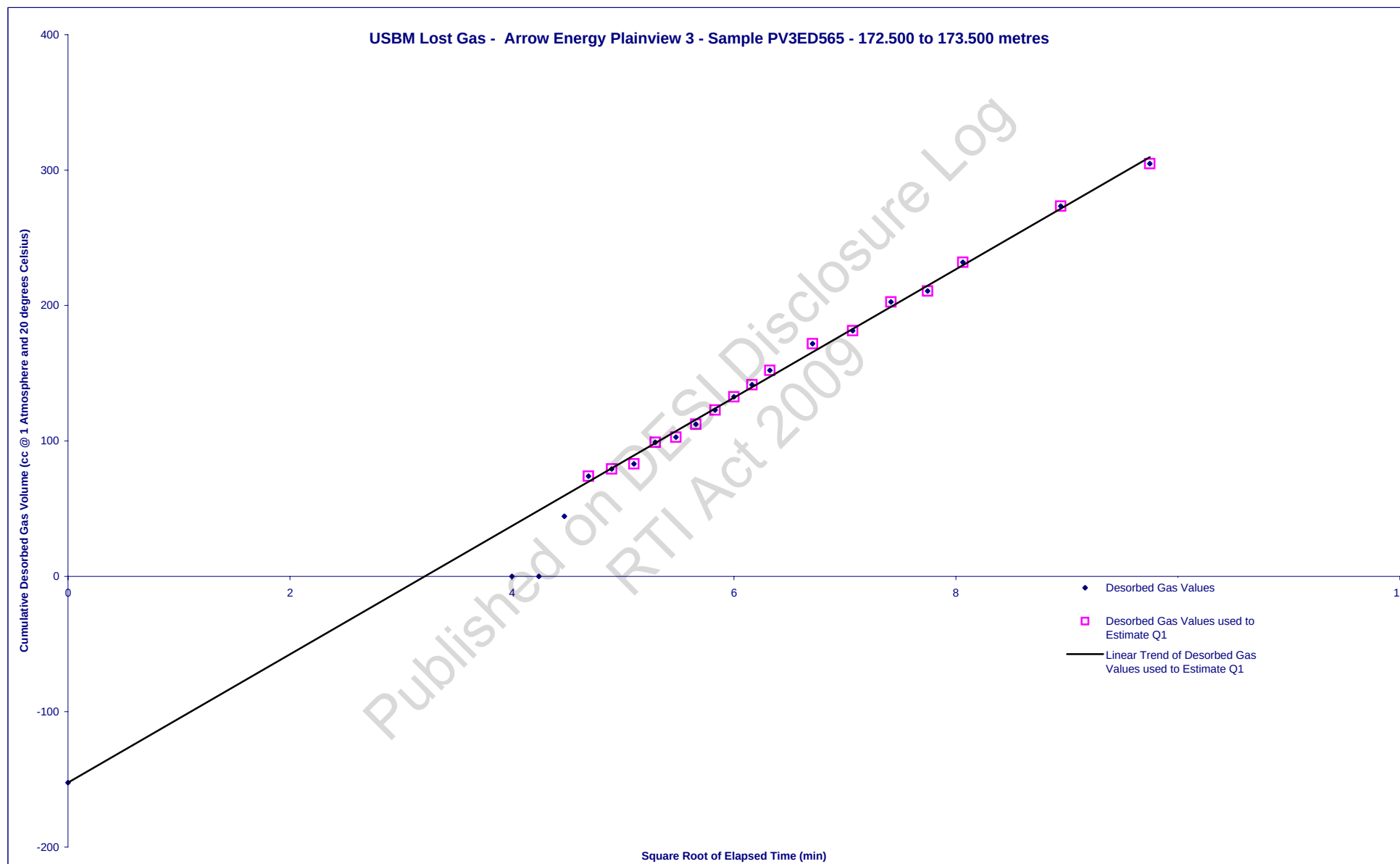


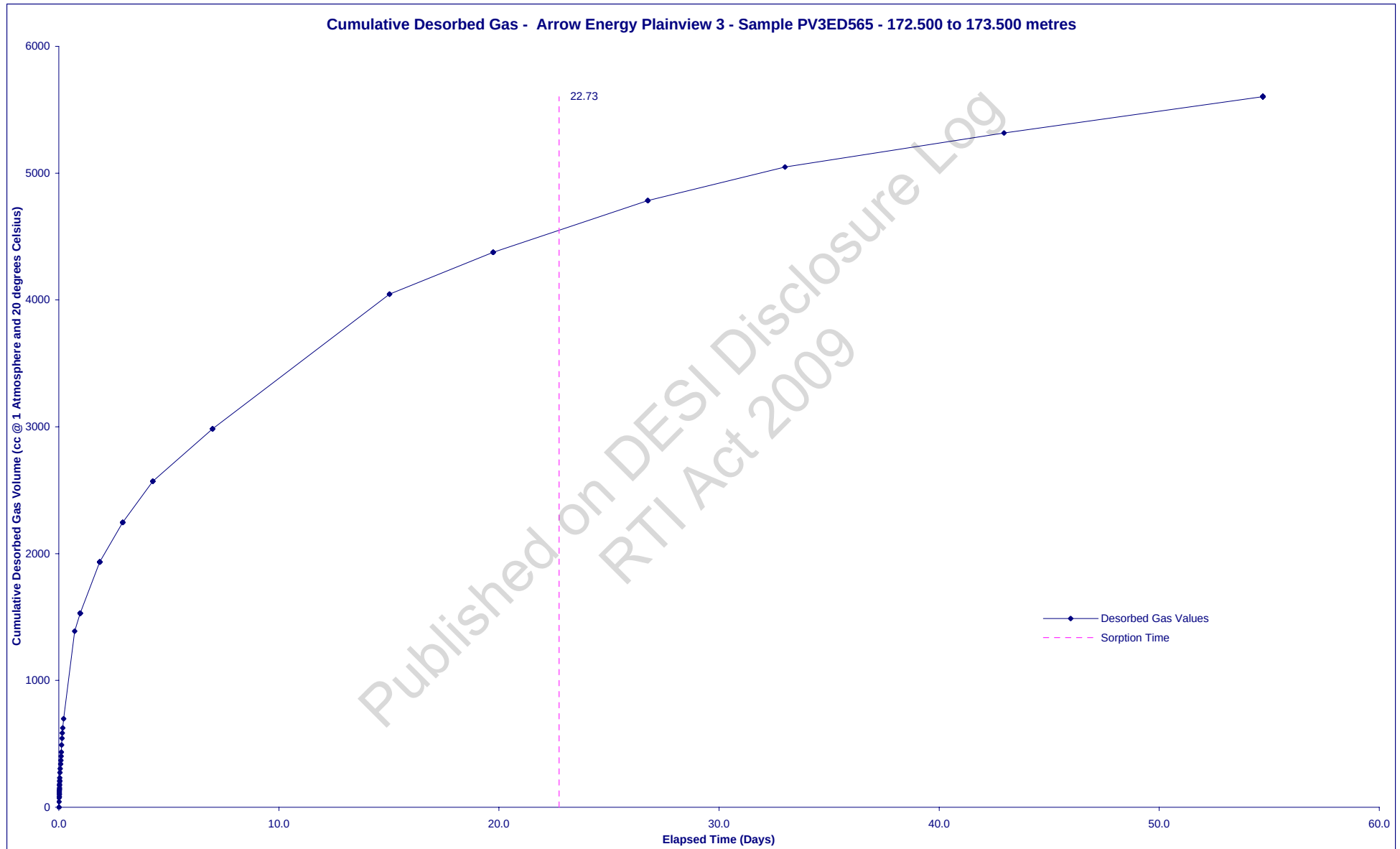
Arrow Energy Plainview 3 - Sample PV3ED565 - 172.500 to 173.500 metres

Hole Name	Plainview 3		Operator	Arrow Energy		Basin		Surat	State	QLD
Sample ID	PV3ED565	Sample Type	Core	Sample Top (m)	172.500	Sample Base (m)	173.500	Core Diameter (cm)	6.35	
Sample Volume (cc)	3167	Mass (g)	3744	RD (g/cc)	1.41	Moisture (%ad)	8.4	Ash (%ad)	6.6	
Q3 Volume (cc@STP)	107.57	Q3 Mass (g)	200.00	Q3 <212 μm (%)	100	Q3 Moisture (%ad)	8.4	Q3 Ash (%ad)	6.6	
Can Length (cm)	107	Can Diameter (cm)	10	Can Volume (cc)	8404	Can Void (cc)	5165	Tubing Void (cc)	31	
Date and Time	DD/MM/YY	HH:MM	Mud Weight (ppg)		8.3454	Trip Rate (m/min)		34.7	Minimum Q1 Point	
Sample Penetrated	16/04/2008	12:14	Formation Pressure (Mpa) @ 0.433 psi/ft		1.69	Surface Time Ratio		0.688	4	
Sample Off Bottom	16/04/2008	12:40	Formation Pressure Gradient (psi/ft)		0.433	Lost Time Ratio		0.015	Maximum Q1 Point	
Sample at Surface	16/04/2008	12:45	Depth HSP=Formation Pressure (m)		172.29	USBM Q1 - Surface Time Correction		1.225	20	
Sample Sealed	16/04/2008	12:56	Formation Temperature (°C)			Smith & Williams Q1 - Q2 Multiplier		1.000	Q1 Points Plotted	
Time Zero	16/04/2008	12:40	Standard Temperature (°C)		20.00	Comments: 6.20 day time compression used between 26/04/2008:13:13 and				
Last Entry	10/06/2008	05:42	Standard Pressure (hPa)		1013	7/05/2008:18:02				
Network	Uncorrected USBM Q1	Corrected USBM Q1	Smith & Williams Q1	Q2	Q3	Uncorrected USBM Q1+Q2+Q3	Corrected USBM Q1+Q2+Q3	Smith and Williams Q1+Q2+Q3	Canister Head Space	
m³	0.000	0.000	0.000	0.006	0.000108				☐ Volumetric	
m³/tonne (raw)	0.04	0.05	0.00	1.50	0.54				☒ He Reference	
SCF/T (raw)	1	2	0	48	17				Time Zero Calculation	
m³/tonne (daf)	0.05	0.06	0.00	1.76	0.63	2.44	2.45	2.39	☒ Auto	
SCF/T (daf)	2	2	0	56	20	78	79	77	☐ Manual	
Percent of daf total	1.96%	2.39%	0.00%	71.81%	Sorption Time (days)	22.73	Diffusivity (sec ⁻¹)	3.21790E-06	☐ Cut Time	
Date	Time	Temperature (°C)			Abs. Air Pressure (hPa)	Inverted Cylinder			Cumulative Q2 (cc at STP)	
DD/MM/YY	HH:MM	Canister	Air	H ₂ O		Start (cc)	Finish (cc)	Size		
16/04/2008 12:56:00		28.1	28.9	23.9	979.6	100	100	2	0	
16/04/2008 12:58:00		30.9	28.9	24.0	979.4	100	220	2	0	
16/04/2008 13:00:00		31.4	28.9	23.9	979.2	220	270	2	44	
16/04/2008 13:02:00		31.6	28.9	24.0	979.4	270	300	2	74	
16/04/2008 13:04:00		31.6	28.9	24.0	979.4	300	305	2	79	
16/04/2008 13:06:00		31.7	28.9	24.0	979.4	305	310	2	83	
16/04/2008 13:08:00		31.7	28.9	24.1	979.4	310	325	2	99	
16/04/2008 13:10:00		31.8	28.9	24.1	979.4	325	330	2	103	
16/04/2008 13:12:00		31.8	28.9	24.2	979.2	330	340	2	112	
16/04/2008 13:14:00		31.8	29.0	24.2	979.2	340	350	2	123	
16/04/2008 13:16:00		31.8	29.0	24.2	979.0	350	360	2	132	
16/04/2008 13:18:00		31.9	29.0	24.3	979.0	360	370	2	142	
16/04/2008 13:20:00		31.9	29.1	24.3	979.0	370	380	2	152	
16/04/2008 13:25:00		32.0	29.3	24.4	979.0	380	400	2	172	
16/04/2008 13:30:00		32.0	29.2	24.5	978.8	400	410	2	181	
16/04/2008 13:35:00		32.0	29.1	24.6	978.8	410	430	2	203	
16/04/2008 13:40:00		32.1	29.1	24.7	978.6	430	440	2	211	
16/04/2008 13:45:00		32.1	29.3	24.9	978.6	440	460	2	232	
16/04/2008 14:00:00		32.1	29.7	25.1	978.4	460	500	2	273	
16/04/2008 14:15:00		32.1	29.9	25.5	978.3	500	530	2	305	
16/04/2008 14:33:00		32.3	30.1	25.9	977.7	530	570	2	341	
16/04/2008 14:49:00		32.3	30.4	26.3	976.9	570	600	2	369	
16/04/2008 15:06:00		32.1	29.8	26.6	976.7	600	630	2	403	
16/04/2008 15:21:00		32.1	30.9	26.9	976.7	630	660	2	435	
16/04/2008 15:40:00		32.6	33.0	27.2	976.7	660	720	2	491	
16/04/2008 16:09:00		33.3	32.2	27.5	976.7	720	780	2	543	
16/04/2008 16:33:00		33.4	30.5	27.7	976.9	780	820	2	586	
16/04/2008 17:00:00		33.0	29.4	27.6	977.3	820	850	2	626	
16/04/2008 17:57:00		31.8	27.3	26.4	979.2	850	890	2	697	
17/04/2008 06:01:00		32.6	21.0	18.6	982.2	890	1500	2	1388	
17/04/2008 07:04:00		35.3	21.2	18.3	982.8	100	310	2	1388	
17/04/2008 08:17:00		35.6	21.8	18.9	982.8	310	360	2	1438	

Arrow Energy Plainview 3 - Sample PV3ED565 - 172.500 to 173.500 metres

Date	Time	Temperature (°C)			Abs. Air Pressure (hPa)	Inverted Cylinder			Cumulative Q2 (cc at STP)
		Canister	Air	H ₂ O		Start (cc)	Finish (cc)	Size	
DD/MM/YY	HH:MM								
17/04/2008	09:08:00	34.3	23.8	19.9	982.2	360	390	2	1488
17/04/2008	10:10:00	32.7	25.2	21.1	981.5	390	320	2	1488
17/04/2008	11:57:00	33.5	27.6	22.7	979.6	320	380	2	1530
17/04/2008	14:03:00	32.9	28.5	24.8	977.1	380	380	2	1530
17/04/2008	16:02:00	32.5	30.6	26.9	976.5	380	385	2	1538
17/04/2008	18:26:00	32.9	25.3	25.6	979.6	385	465	2	1634
18/04/2008	06:13:00	34.1	21.7	20.4	980.5	465	715	2	1894
18/04/2008	07:26:00	36.8	24.6	20.3	981.1	715	780	2	1926
18/04/2008	09:21:00	34.7	25.6	21.8	980.7	780	760	2	1935
18/04/2008	13:03:00	33.9	27.6	24.4	978.4	760	780	2	1957
18/04/2008	16:54:00	32.6	28.0	25.1	978.1	780	790	2	1986
19/04/2008	06:02:00	34.1	20.9	19.8	981.3	790	1000	2	2212
19/04/2008	10:17:00	32.3	25.2	21.6	981.3	1000	1005	2	2246
19/04/2008	17:36:00	34.4	23.6	22.9	979.8	1005	1135	2	2349
20/04/2008	06:11:00	33.0	20.5	19.9	981.7	1135	1190	2	2443
20/04/2008	19:05:00	32.9	22.3	22.0	980.3	1190	1310	2	2571
21/04/2008	06:12:00	32.8	18.9	19.7	981.9	100	310	2	2607
22/04/2008	19:14:00	31.8	24.8	24.3	980.5	100	350	2	2849
23/04/2008	12:18:00	32.8	28.0	21.8	977.9	370	520	2	2984
26/04/2008	13:13:00	34.4	29.6	21.0	973.1	100	290	2	3067
07/05/2008	18:02:00	35.4	24.8	24.3	1018.6	200	890	2	4046
09/05/2008	16:42:00	36.1	22.1	22.2	1025.9	200	450	2	4240
10/05/2008	16:10:00	29.0	26.1	23.7	1024.0	200	140	2	4240
11/05/2008	16:31:00	33.1	24.8	23.1	1026.5	200	210	2	4240
12/05/2008	11:15:00	35.6	23.0	23.7	1028.2	200	350	2	4376
13/05/2008	12:15:00	31.3	22.5	20.2	1027.5	200	100	2	4376
15/05/2008	10:57:00	35.5	23.5	22.2	1027.1	200	410	2	4559
19/05/2008	11:52:00	36.3	21.2	20.3	1020.7	200	470	2	4784
25/05/2008	17:27:00	34.0	22.9	21.4	1030.9	100	310	2	5048
04/06/2008	16:21:00	33.6	22.4	21.5	1022.8	100	400	2	5317
07/06/2008	12:08:00	34.1	26.1	22.0	1030.0	100	120	2	5317
16/06/2008	10:31:00	31.2	20.3	19.5	1029.4	200	400	2	5604





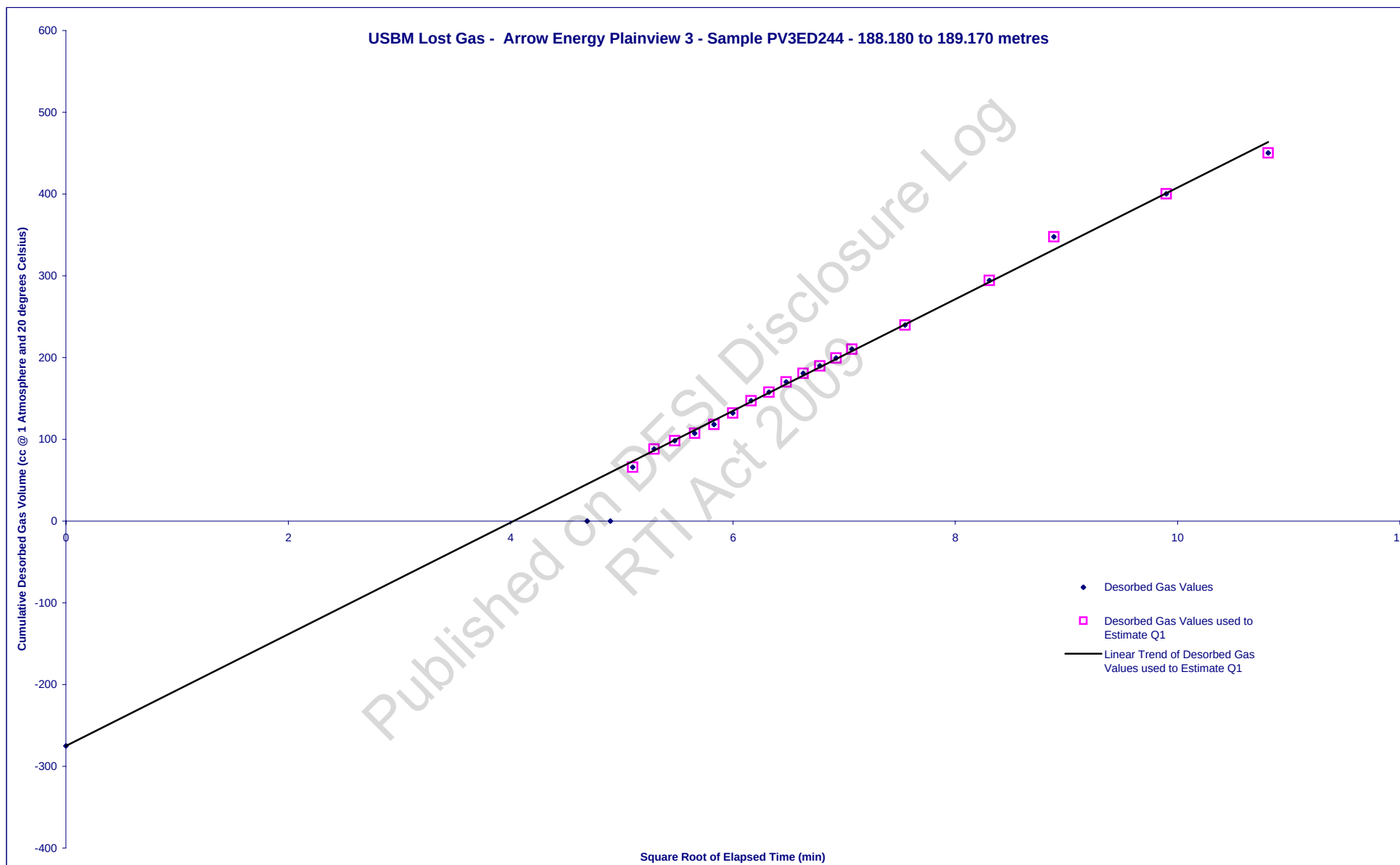
Arrow Energy Plainview 3 - Sample PV3ED244 - 188.180 to 189.170 metres

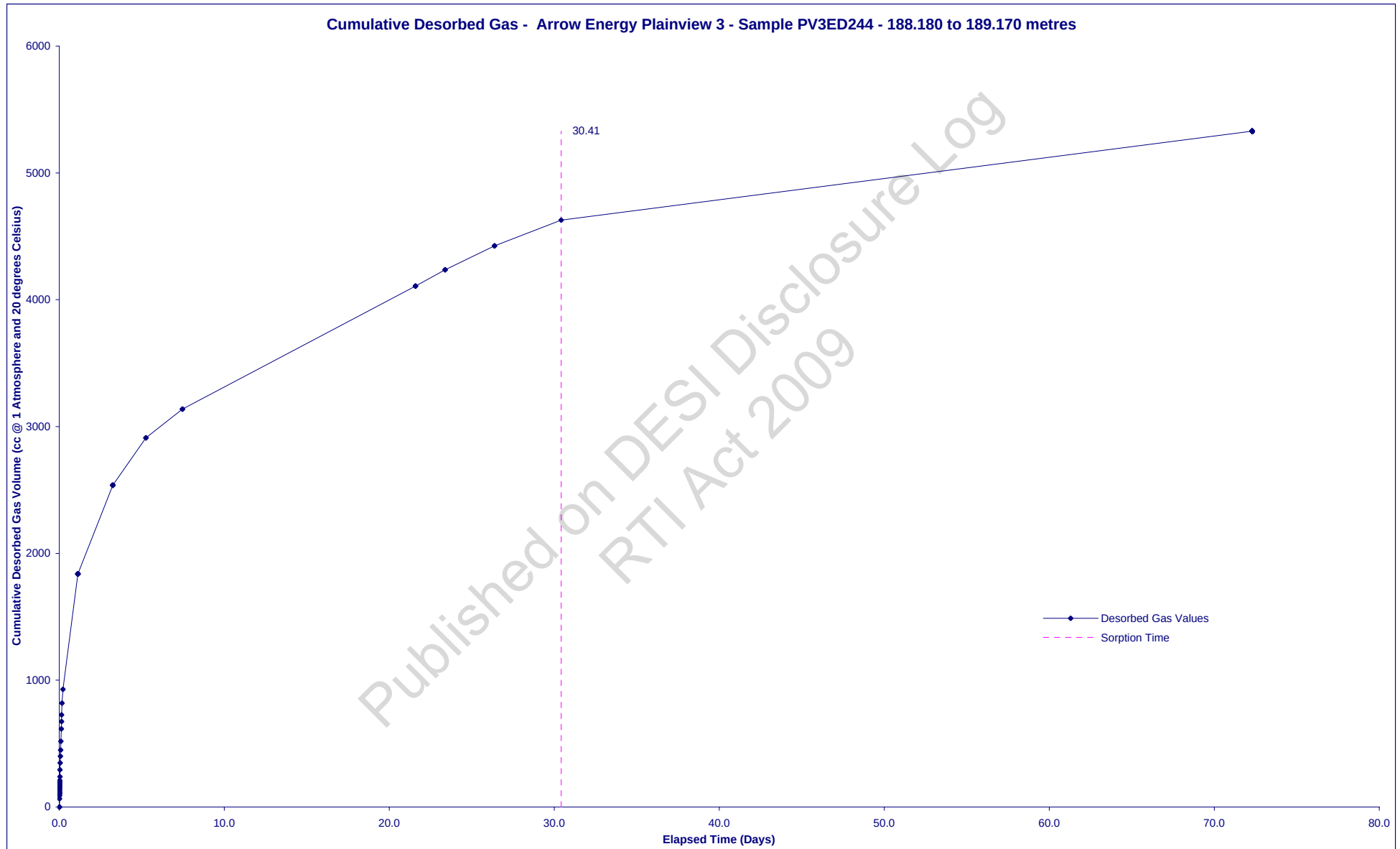
Hole Name	Plainview 3		Operator	Arrow Energy		Basin		Surat	State	QLD
Sample ID	PV3ED244	Sample Type	Core	Sample Top (m)	188.180	Sample Base (m)	189.170	Core Diameter (cm)	6.35	
Sample Volume (cc)	3135	Mass (g)	3786	RD (g/cc)	1.40	Moisture (%ad)	7.8	Ash (%ad)	10.1	
Q3 Volume (cc@STP)	119.99	Q3 Mass (g)	200.00	Q3 <212 µm (%)	100	Q3 Moisture (%ad)	7.8	Q3 Ash (%ad)	10.1	
Can Length (cm)	107	Can Diameter (cm)	10	Can Volume (cc)	8404	Can Void (cc)	5435	Tubing Void (cc)	31	
Date and Time	DD/MM/YY	HH:MM	Mud Weight (ppg)			8.3454	Trip Rate (m/min)	31.5	Minimum Q1 Point	
Sample Penetrated	17/04/2008	12:11	Formation Pressure (Mpa) @ 0.433 psi/ft			1.84	Surface Time Ratio	0.728	3	
Sample Off Bottom	17/04/2008	13:05	Formation Pressure Gradient (psi/ft)			0.433	Lost Time Ratio	0.074	Maximum Q1 Point	
Sample at Surface	17/04/2008	13:11	Depth HSP=Formation Pressure (m)			187.95	USBM Q1 - Surface Time Correction	1.25	20	
Sample Sealed	17/04/2008	13:27	Formation Temperature (°C)				Smith & Williams Q1 - Q2 Multiplier	1.040	Q1 Points Plotted	
Time Zero	17/04/2008	13:05	Standard Temperature (°C)			20.00	Comments: 1.54 day time compression used between 23/04/2008:12:18 and			20
Last Entry	28/06/2008	20:14	Standard Pressure (hPa)			1013	26/04/2008:13:13			-275
Network	Uncorrected USBM Q1	Corrected USBM Q1	Smith & Williams Q1	Q2	Q3	Uncorrected USBM Q1+Q2+Q3	Corrected USBM Q1+Q2+Q3	Smith and Williams Q1+Q2+Q3	Canister Head Space	
m³	0.000	0.000	0.000	0.005	0.000120				☐ Volumetric	
m³/tonne (raw)	0.07	0.09	0.06	1.41	0.60				☒ He Reference	
SCF/T (raw)	2	3	2	45	19				Time Zero Calculation	
m³/tonne (daf)	0.09	0.11	0.07	1.71	0.73	2.53	2.56	2.51	☒ Auto	
SCF/T (daf)	3	4	2	55	23	81	82	81	☐ Manual	
Percent of daf total	3.49%	4.33%	2.73%	67.08%	Sorption Time (days)	30.41	Diffusivity (sec ⁻¹)	6.44729E-06	☐ Cut Time	
Date	Time	Temperature (°C)			Abs. Air Pressure (hPa)	Inverted Cylinder			Cumulative Q2 (cc at STP)	
DD/MM/YY	HH:MM	Canister	Air	H ₂ O		Start (cc)	Finish (cc)	Size		
17/04/2008	13:27:00	32.9	27.9	24.1	977.9	100	100	2	0	
17/04/2008	13:29:00	33.0	27.9	24.2	977.9	100	230	2	0	
17/04/2008	13:31:00	33.5	28.0	24.3	977.7	230	300	2	66	
17/04/2008	13:33:00	33.5	28.1	24.3	977.9	300	320	2	88	
17/04/2008	13:35:00	33.4	28.1	24.3	977.5	320	330	2	98	
17/04/2008	13:37:00	33.5	28.2	24.3	977.5	330	340	2	107	
17/04/2008	13:39:00	33.5	28.2	24.3	977.5	340	350	2	118	
17/04/2008	13:41:00	33.7	28.2	24.3	977.7	350	365	2	132	
17/04/2008	13:43:00	33.7	28.3	24.4	977.5	365	380	2	147	
17/04/2008	13:45:00	33.7	28.3	24.4	977.5	380	390	2	158	
17/04/2008	13:47:00	33.6	28.3	24.4	977.5	390	400	2	170	
17/04/2008	13:49:00	33.6	28.3	24.5	977.5	400	410	2	181	
17/04/2008	13:51:00	33.7	28.3	24.5	977.5	410	420	2	190	
17/04/2008	13:53:00	33.7	28.3	24.6	977.3	420	430	2	200	
17/04/2008	13:55:00	33.7	28.4	24.6	977.3	430	440	2	210	
17/04/2008	14:02:00	33.8	28.5	24.8	977.1	440	470	2	240	
17/04/2008	14:14:00	33.8	28.7	25.0	977.3	470	520	2	294	
17/04/2008	14:24:00	33.7	29.0	25.3	976.9	520	570	2	348	
17/04/2008	14:43:00	33.6	29.0	25.7	976.4	570	620	2	400	
17/04/2008	15:02:00	33.7	29.3	26.0	976.0	620	670	2	450	
17/04/2008	15:26:00	33.5	29.3	26.5	976.0	670	730	2	518	
17/04/2008	16:01:00	33.5	30.5	26.9	976.4	730	820	2	617	
17/04/2008	16:17:00	33.4	31.4	27.0	976.7	820	870	2	674	
17/04/2008	16:34:00	33.5	31.6	27.1	976.9	870	920	2	727	
17/04/2008	17:07:00	34.1	29.7	26.9	977.7	920	1010	2	819	
17/04/2008	18:24:00	34.1	25.3	25.6	979.6	1010	1100	2	929	
18/04/2008	06:15:00	34.6	21.4	20.4	980.5	100	870	2	1606	
18/04/2008	07:28:00	36.9	24.8	20.2	980.9	870	970	2	1681	
18/04/2008	08:20:00	36.9	24.6	20.9	981.1	970	990	2	1704	
18/04/2008	09:22:00	36.8	25.7	21.8	980.7	990	980	2	1704	
18/04/2008	11:17:00	36.3	27.8	23.1	980.5	980	1000	2	1733	
18/04/2008	13:03:00	35.8	27.6	24.4	978.4	1000	1045	2	1779	

Arrow Energy Plainview 3 - Sample PV3ED244 - 188.180 to 189.170 metres

Date	Time	Temperature (°C)			Abs. Air Pressure (hPa)	Inverted Cylinder			Cumulative Q2 (cc at STP)
		Canister	Air	H ₂ O		Start (cc)	Finish (cc)	Size	
18/04/2008	16:04:00	34.4	28.0	25.1	978.1	1045	1080	2	1839
19/04/2008	06:02:00	35.2	20.9	19.8	981.3	1080	1390	2	2194
19/04/2008	10:17:00	35.0	25.2	21.6	981.3	1390	1410	2	2220
19/04/2008	17:36:00	34.6	23.6	22.9	979.8	100	340	2	2250
20/04/2008	06:11:00	33.0	20.5	19.9	981.7	340	420	2	2375
20/04/2008	19:05:00	32.7	22.3	22.0	980.3	420	570	2	2537
21/04/2008	06:12:00	32.7	18.9	19.7	981.9	570	690	2	2680
22/04/2008	19:14:00	31.8	24.8	24.3	980.5	100	400	2	2911
23/04/2008	12:18:00	33.0	28.0	21.8	977.9	470	620	2	3052
26/04/2008	13:13:00	34.4	29.6	21.0	973.1	100	310	2	3137
07/05/2008	18:02:00	35.7	24.8	24.3	1018.6	200	590	2	3779
09/05/2008	16:42:00	36.7	22.1	22.2	1025.9	200	450	2	4018
10/05/2008	16:10:00	29.5	26.1	23.7	1024.0	200	220	2	4108
11/05/2008	16:31:00	34.0	24.8	23.1	1026.5	200	220	2	4108
12/05/2008	11:15:00	36.8	23.0	23.7	1028.2	200	350	2	4236
13/05/2008	12:15:00	32.0	22.5	20.2	1027.5	200	100	2	4236
15/05/2008	10:57:00	36.5	23.5	22.2	1027.1	200	420	2	4425
19/05/2008	11:52:00	37.0	21.2	20.3	1020.7	200	450	2	4628
25/05/2008	15:08:00	34.6	24.5	21.3	1031.1	100	320	2	4912
04/06/2008	16:15:00	34.5	22.4	21.5	1022.8	100	400	2	5172
07/06/2008	11:02:00	36.4	25.8	21.5	1020.5	100	150	2	5172
30/06/2008	09:09:00	33.5	16.7	23.3	1025.1	100	180	2	5330

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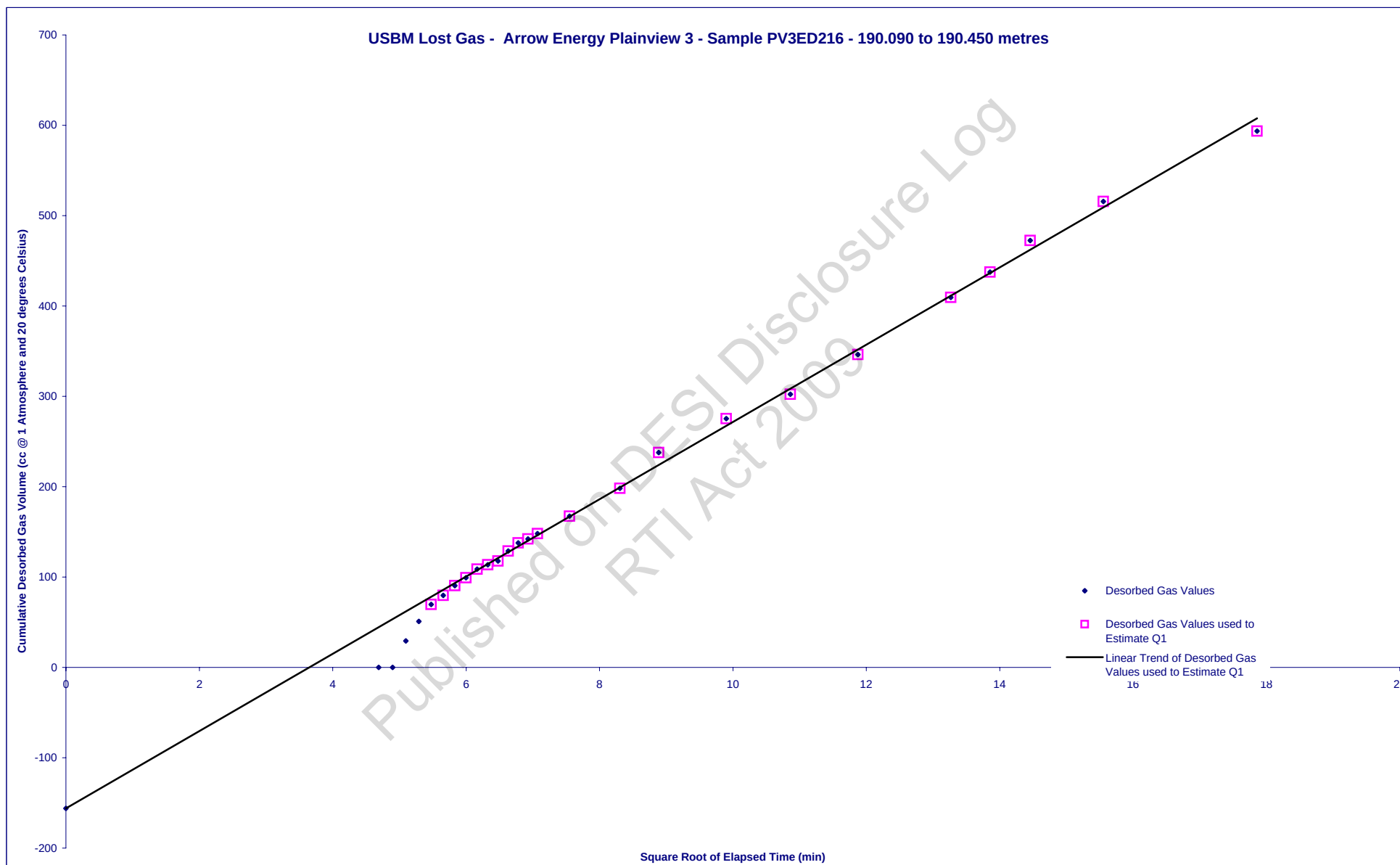


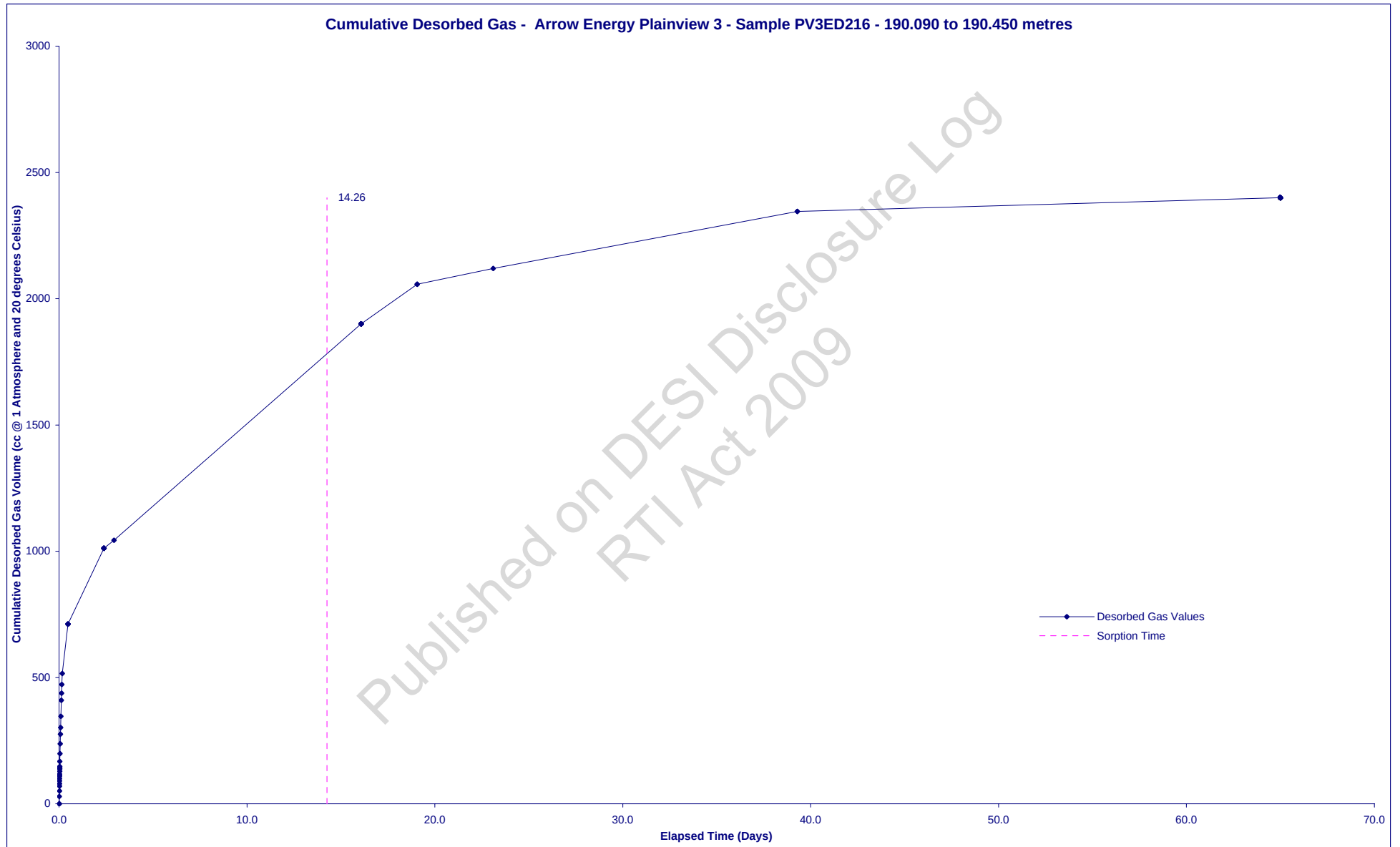
Arrow Energy Plainview 3 - Sample PV3ED216 - 190.090 to 190.450 metres

Hole Name	Plainview 3		Operator	Arrow Energy		Basin	Surat	State	QLD
Sample ID	PV3ED216	Sample Type	Core	Sample Top (m)	190.090	Sample Base (m)	190.450	Core Diameter (cm)	6.35
Sample Volume (cc)	1140	Mass (g)	1484	RD (g/cc)	1.46	Moisture (%ad)	9	Ash (%ad)	15.9
Q3 Volume (cc@STP)	70.18	Q3 Mass (g)	200.00	Q3 <212 μm (%)	100	Q3 Moisture (%ad)	9	Q3 Ash (%ad)	15.9
Can Length (cm)	57	Can Diameter (cm)	10	Can Volume (cc)	4477	Can Void (cc)	3270	Tubing Void (cc)	31
Date and Time	DD/MM/YY	HH:MM		Mud Weight (ppg)	8.3454	Trip Rate (m/min)		31.7	Minimum Q1 Point
Sample Penetrated	17/04/2008	12:26		Formation Pressure (Mpa) @ 0.433 psi/ft	1.86	Surface Time Ratio		0.728	5
Sample Off Bottom	17/04/2008	13:05		Formation Pressure Gradient (psi/ft)	0.433	Lost Time Ratio		0.074	Maximum Q1 Point
Sample at Surface	17/04/2008	13:11		Depth HSP=Formation Pressure (m)	189.86	USBM Q1 - Surface Time Correction		1.25	26
Sample Sealed	17/04/2008	13:27		Formation Temperature (°C)		Smith & Williams Q1 - Q2 Multiplier		1.040	Q1 Points Plotted
Time Zero	17/04/2008	13:05		Standard Temperature (°C)	20.00	Comments: 0.33 day time compression used between 17/04/2008:18:24 and 18/04/2008:06:15 8.85 day time compression used between			26
Last Entry	21/06/2008	12:52		Standard Pressure (hPa)	1013				-156
Network	Uncorrected USBM Q1	Corrected USBM Q1	Smith & Williams Q1	Q2	Q3	Uncorrected USBM Q1+Q2+Q3	Corrected USBM Q1+Q2+Q3	Smith and Williams Q1+Q2+Q3	Canister Head Space ○ Volumetric ● He Reference
m³	0.000	0.000	0.000	0.002	0.000070				Time Zero Calculation ● Auto ○ Manual ○ Cut Time
m³/tonne (raw)	0.11	0.13	0.06	1.62	0.35				
SCF/T (raw)	3	4	2	52	11				
m³/tonne (daf)	0.14	0.18	0.09	2.15	0.47	2.76	2.80	2.71	
SCF/T (daf)	4	6	3	69	15	88	90	87	
Percent of daf total	5.08%	6.26%	3.18%	77.02%	Sorption Time (days)	14.26	Diffusivity (sec ⁻¹)	1.64431E-05	
Date	Time	Temperature (°C)			Abs. Air Pressure (hPa)	Inverted Cylinder			Cumulative Q2 (cc at STP)
DD/MM/YY	HH:MM	Canister	Air	H ₂ O		Start (cc)	Finish (cc)	Size	
17/04/2008	13:27:00	34.3	27.9	24.1	977.9	100	100	2	0
17/04/2008	13:29:00	34.3	27.9	24.2	977.9	100	220	2	0
17/04/2008	13:31:00	34.3	28.0	24.3	977.7	220	250	2	29
17/04/2008	13:33:00	34.2	28.1	24.3	977.9	250	270	2	51
17/04/2008	13:35:00	34.2	28.1	24.3	977.5	270	290	2	70
17/04/2008	13:37:00	34.2	28.2	24.3	977.5	290	300	2	80
17/04/2008	13:39:00	34.1	28.2	24.3	977.5	300	310	2	91
17/04/2008	13:41:00	34.3	28.2	24.3	977.7	310	320	2	99
17/04/2008	13:43:00	34.3	28.3	24.4	977.5	320	330	2	109
17/04/2008	13:45:00	34.3	28.3	24.4	977.5	330	335	2	114
17/04/2008	13:47:00	34.4	28.3	24.4	977.5	335	340	2	118
17/04/2008	13:49:00	34.3	28.3	24.5	977.5	340	350	2	129
17/04/2008	13:51:00	34.4	28.3	24.5	977.5	350	360	2	138
17/04/2008	13:53:00	34.4	28.3	24.6	977.3	360	365	2	142
17/04/2008	13:55:00	34.3	28.4	24.6	977.3	365	370	2	148
17/04/2008	14:02:00	34.3	28.5	24.8	977.1	370	390	2	167
17/04/2008	14:14:00	34.3	28.7	25.0	977.3	390	420	2	198
17/04/2008	14:24:00	34.2	29.0	25.3	976.9	420	460	2	238
17/04/2008	14:43:00	34.3	29.0	25.7	976.4	460	500	2	275
17/04/2008	15:03:00	34.5	29.3	26.0	976.0	500	530	2	302
17/04/2008	15:26:00	34.1	29.3	26.5	976.0	530	570	2	346
17/04/2008	16:01:00	33.9	30.5	26.9	976.4	570	630	2	409
17/04/2008	16:17:00	34.2	31.4	27.0	976.7	630	660	2	438
17/04/2008	16:34:00	34.8	31.6	27.1	976.9	660	700	2	472
17/04/2008	17:07:00	35.8	29.7	26.9	977.7	700	750	2	516
17/04/2008	18:24:00	35.8	25.3	25.6	979.6	750	820	2	594
18/04/2008	06:15:00	35.7	21.4	20.4	980.5	820	850	2	629
18/04/2008	07:28:00	36.4	24.8	20.2	980.9	850	900	2	675
18/04/2008	08:20:00	36.9	24.6	20.9	981.1	900	940	2	712
18/04/2008	09:22:00	36.4	25.7	21.8	980.7	940	960	2	736
18/04/2008	11:17:00	35.2	27.8	23.1	980.5	960	1000	2	788
18/04/2008	13:03:00	35.1	27.6	24.4	978.4	1000	1040	2	824

Arrow Energy Plainview 3 - Sample PV3ED216 - 190.090 to 190.450 metres

Date	Time	Temperature (°C)			Abs. Air Pressure (hPa)	Inverted Cylinder			Cumulative Q2 (cc at STP)
		Canister	Air	H ₂ O		Start (cc)	Finish (cc)	Size	
DD/MM/YY	HH:MM								
18/04/2008	16:54:00	34.5	28.0	25.1	978.1	1040	1080	2	870
19/04/2008	06:02:00	34.1	20.9	19.8	981.3	1080	1100	2	905
19/04/2008	10:17:00	33.6	25.2	21.6	981.3	1100	1120	2	931
19/04/2008	17:36:00	34.9	23.6	22.9	979.8	1120	1160	2	955
20/04/2008	06:11:00	33.0	20.5	19.9	981.7	1160	1190	2	1012
20/04/2008	19:05:00	32.6	22.3	22.0	980.3	1190	1220	2	1043
21/04/2008	06:12:00	32.5	18.9	19.7	981.9	100	190	2	1043
22/04/2008	19:14:00	31.8	24.8	24.3	980.5	100	170	2	1107
23/04/2008	12:18:00	33.8	28.0	21.8	977.9	220	280	2	1144
26/04/2008	13:13:00	34.5	29.6	21.0	973.1	100	330	2	1332
07/05/2008	09:30:00	40.3	25.4	23.5	1021.3	200	280	2	1501
09/05/2008	16:28:00	36.2	22.4	22.3	1025.9	200	290	2	1644
10/05/2008	15:42:00	29.5	25.7	23.8	1024.0	200	260	2	1760
11/05/2008	16:27:00	33.7	24.9	23.1	1026.7	200	330	2	1856
12/05/2008	11:10:00	36.9	22.8	23.6	1028.4	200	280	2	1900
13/05/2008	12:00:00	32.0	22.6	20.2	1027.7	200	310	2	2057
15/05/2008	10:53:00	36.9	23.4	22.3	1027.1	200	260	2	2057
19/05/2008	11:46:00	36.6	21.3	20.0	1021.1	200	280	2	2119
25/05/2008	15:08:00	34.5	24.5	21.3	1031.1	100	240	2	2302
04/06/2008	16:15:00	34.0	22.4	21.5	1022.8	100	175	2	2345
07/06/2008	11:02:00	36.4	25.8	21.5	1020.5	100	190	2	2400
30/06/2008	09:09:00	33.5	16.7	23.3	1025.1	100	50	2	2400





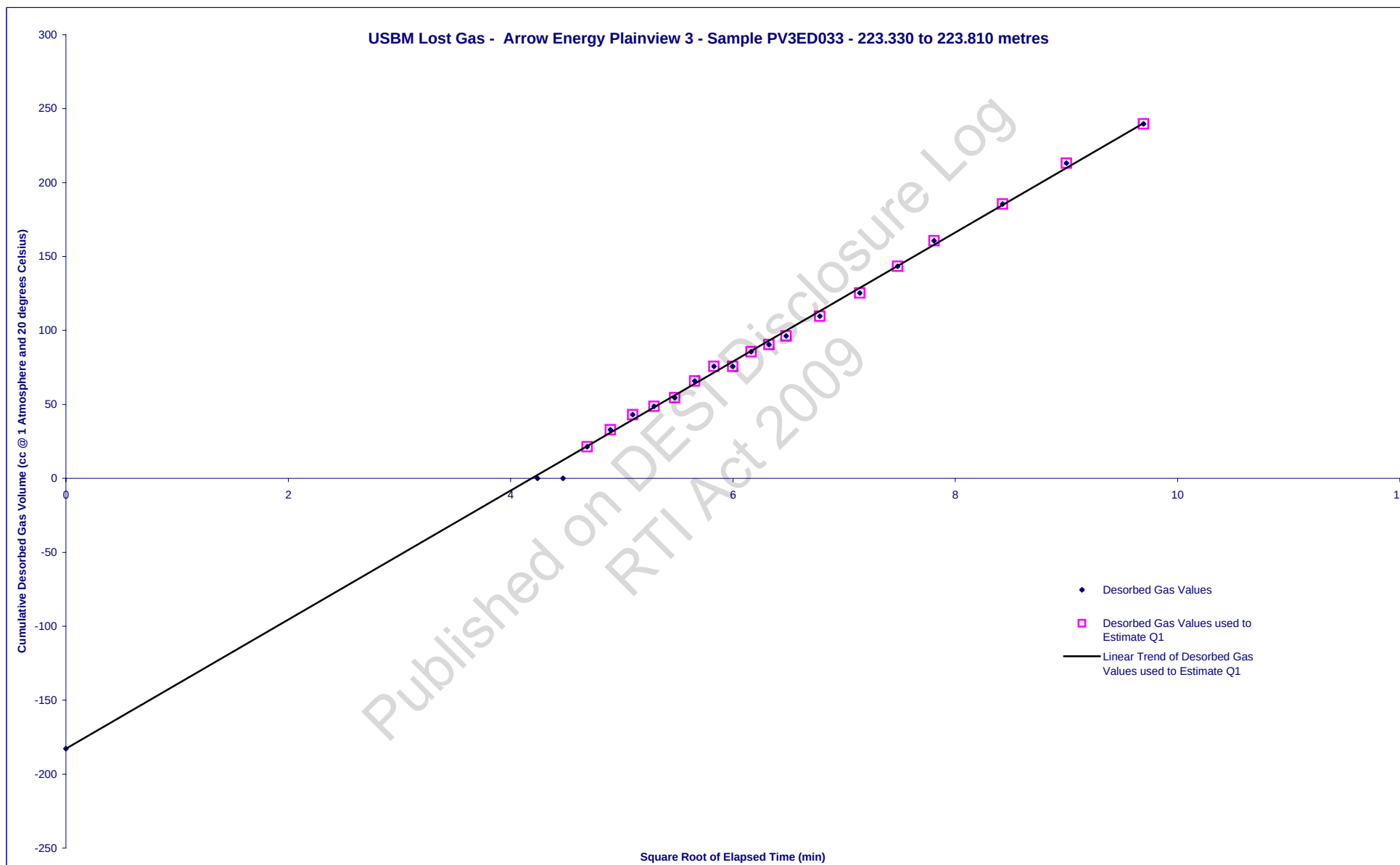
Arrow Energy Plainview 3 - Sample PV3ED033 - 223.330 to 223.810 metres

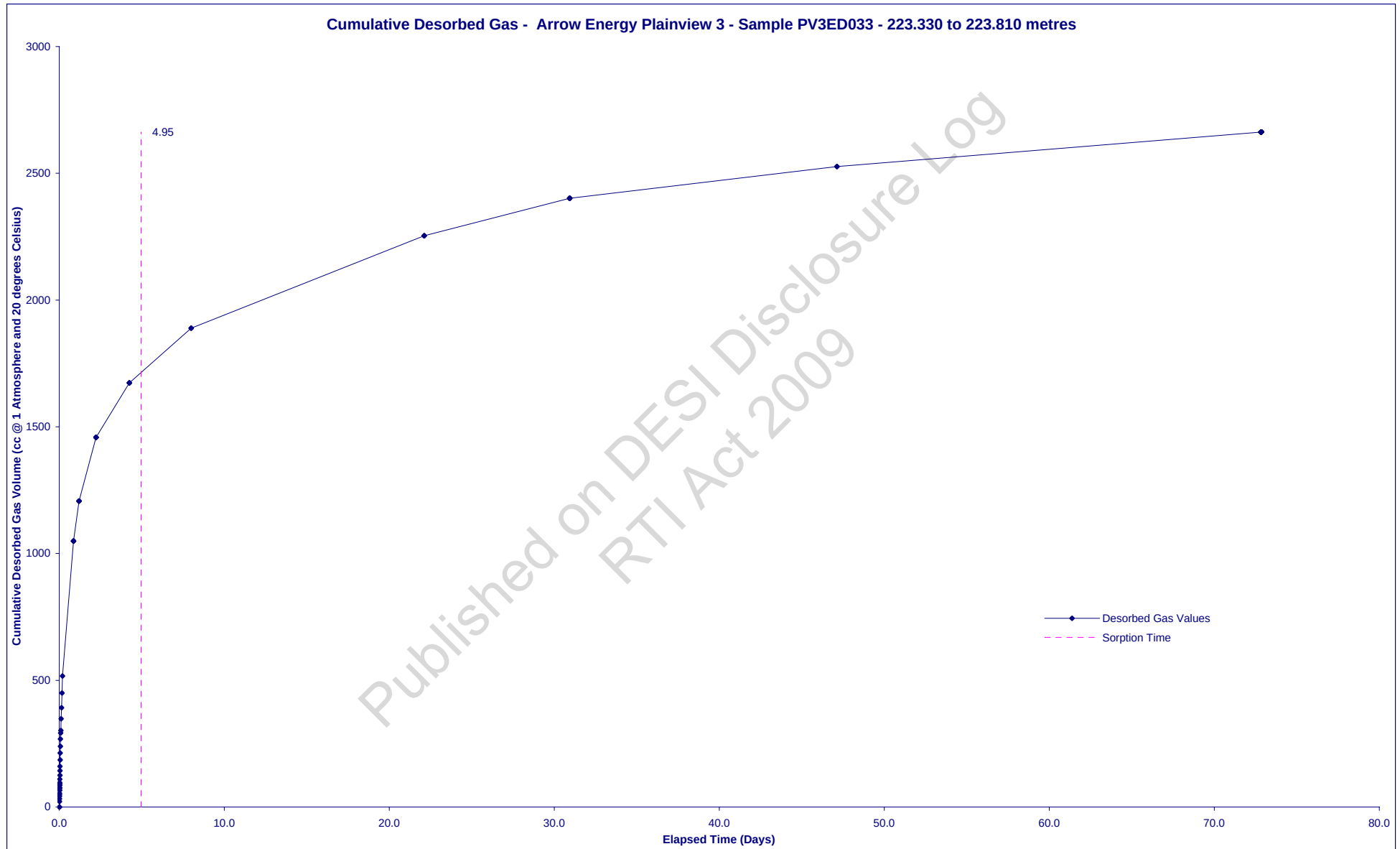
Hole Name	Plainview 3		Operator	Arrow Energy		Basin	Surat	State	QLD
Sample ID	PV3ED033	Sample Type	Core	Sample Top (m)	223.330	Sample Base (m)	223.810	Core Diameter (cm)	6.35
Sample Volume (cc)	1520	Mass (g)	2016	RD (g/cc)	1.43	Moisture (%ad)	7.2	Ash (%ad)	22.8
Q3 Volume (cc@STP)	23.26	Q3 Mass (g)	200.00	Q3 <212 µm (%)	100	Q3 Moisture (%ad)	7.2	Q3 Ash (%ad)	22.8
Can Length (cm)	57	Can Diameter (cm)	10	Can Volume (cc)	4477	Can Void (cc)	2793	Tubing Void (cc)	31
Date and Time	DD/MM/YY	HH:MM		Mud Weight (ppg)	8.3454		Trip Rate (m/min)	37.3	Minimum Q1 Point
Sample Penetrated	18/04/2008	12:26		Formation Pressure (Mpa) @ 0.433 psi/ft	2.19		Surface Time Ratio	0.667	3
Sample Off Bottom	18/04/2008	13:29		Formation Pressure Gradient (psi/ft)	0.433		Lost Time Ratio	0.069	Maximum Q1 Point
Sample at Surface	18/04/2008	13:35		Depth HSP=Formation Pressure (m)	223.06	USBM Q1 - Surface Time Correction		1.225	20
Sample Sealed	18/04/2008	13:47		Formation Temperature (°C)		Smith & Williams Q1 - Q2 Multiplier		1.000	Q1 Points Plotted
Time Zero	18/04/2008	13:29		Standard Temperature (°C)	20.00	Comments:			20
Last Entry	30/06/2008	09:37		Standard Pressure (hPa)	1013				-183
Network	Uncorrected USBM Q1	Corrected USBM Q1	Smith & Williams Q1	Q2	Q3	Uncorrected USBM Q1+Q2+Q3	Corrected USBM Q1+Q2+Q3	Smith and Williams Q1+Q2+Q3	Canister Head Space ○ Volumetric ● He Reference
m³	0.000	0.000	0.000	0.003	0.000023				Time Zero Calculation ● Auto ○ Manual ○ Cut Time
m³/tonne (raw)	0.09	0.11	0.00	1.32	0.12				
SCF/T (raw)	3	4	0	42	4				
m³/tonne (daf)	0.13	0.16	0.00	1.89	0.17	2.18	2.21	2.05	
SCF/T (daf)	4	5	0	60	5	70	71	66	
Percent of daf total	5.94%	7.18%	0.00%	85.31%	Sorption Time (days)	4.95	Diffusivity (sec ⁻¹)	1.70514E-05	
Date	Time	Temperature (°C)			Abs. Air Pressure (hPa)	Inverted Cylinder			Cumulative Q2 (cc at STP)
DD/MM/YY	HH:MM	Canister	Air	H ₂ O		Start (cc)	Finish (cc)	Size	
18/04/2008	13:47:00	33.1	27.2	24.9	978.3	100	100	2	0
18/04/2008	13:49:00	34.4	27.2	24.8	978.3	100	200	2	0
18/04/2008	13:51:00	34.2	27.2	24.8	978.3	200	220	2	21
18/04/2008	13:53:00	34.0	27.2	24.9	978.3	220	230	2	33
18/04/2008	13:55:00	33.9	27.2	24.9	978.1	230	240	2	43
18/04/2008	13:57:00	33.8	27.2	25.0	978.1	240	245	2	49
18/04/2008	13:59:00	33.7	27.1	25.0	978.1	245	250	2	55
18/04/2008	14:01:00	33.6	27.0	25.0	978.3	250	260	2	66
18/04/2008	14:03:00	33.6	26.9	25.0	978.3	260	270	2	76
18/04/2008	14:05:00	33.6	26.9	25.0	978.3	270	270	2	76
18/04/2008	14:07:00	33.6	27.0	25.0	978.3	270	280	2	86
18/04/2008	14:09:00	33.6	27.0	24.9	978.3	280	285	2	90
18/04/2008	14:11:00	33.5	27.0	24.9	978.3	285	290	2	96
18/04/2008	14:15:00	33.6	27.2	25.0	978.1	290	305	2	110
18/04/2008	14:20:00	33.5	27.4	25.0	978.1	305	320	2	125
18/04/2008	14:25:00	33.7	27.9	25.0	978.1	320	340	2	143
18/04/2008	14:30:00	34.0	28.7	25.1	978.1	340	360	2	161
18/04/2008	14:40:00	34.5	29.7	25.2	977.9	360	390	2	186
18/04/2008	14:50:00	34.8	30.2	25.4	978.1	390	420	2	213
18/04/2008	15:03:00	35.1	29.6	25.4	977.9	420	450	2	240
18/04/2008	15:18:00	35.1	28.4	23.1	977.7	450	480	2	269
18/04/2008	15:31:00	34.8	28.1	23.9	977.9	480	500	2	292
18/04/2008	15:40:00	34.7	27.9	24.4	977.7	500	510	2	302
18/04/2008	16:11:00	34.1	26.5	24.9	978.4	510	550	2	349
18/04/2008	16:40:00	33.5	27.0	24.8	977.7	550	590	2	392
18/04/2008	17:20:00	34.1	27.5	25.1	978.8	590	650	2	450
18/04/2008	18:07:00	34.9	25.9	24.4	980.2	650	720	2	517
19/04/2008	05:59:00	33.5	21.0	19.8	981.3	720	1110	2	937
19/04/2008	07:42:00	35.0	23.9	19.7	982.1	1110	1180	2	999
19/04/2008	08:27:00	36.0	23.5	20.3	981.9	1180	1210	2	1021
19/04/2008	10:15:00	32.5	25.1	21.6	981.3	1210	1210	2	1049
19/04/2008	14:01:00	32.6	26.6	23.7	978.3	1210	1280	2	1111

Arrow Energy Plainview 3 - Sample PV3ED033 - 223.330 to 223.810 metres

Date	Time	Temperature (°C)			Abs. Air Pressure (hPa)	Inverted Cylinder			Cumulative Q2 (cc at STP)
		Canister	Air	H ₂ O		Start (cc)	Finish (cc)	Size	
19/04/2008	17:00:00	34.5	25.4	22.7	978.8	1280	1380	2	1199
19/04/2008	18:20:00	33.1	22.1	22.4	980.9	1380	1370	2	1207
20/04/2008	06:05:00	32.6	20.6	20.7	981.9	100	280	2	1280
20/04/2008	11:02:00	33.2	26.1	21.8	981.1	280	340	2	1333
20/04/2008	15:53:00	35.6	24.1	22.6	978.3	340	450	2	1415
20/04/2008	19:04:00	32.3	22.3	22.0	980.2	450	460	2	1459
21/04/2008	06:10:00	32.0	18.9	19.8	981.7	460	550	2	1558
21/04/2008	12:17:00	33.4	28.4	22.5	978.3	550	570	2	1558
22/04/2008	19:16:00	31.9	25.1	24.4	980.3	100	240	2	1673
23/04/2008	12:21:00	33.6	28.0	21.9	978.1	100	180	2	1719
26/04/2008	13:15:00	35.0	29.6	21.3	972.1	100	310	2	1889
07/05/2008	18:02:00	35.1	24.8	24.3	1018.6	200	360	2	2172
09/05/2008	16:42:00	36.0	22.1	22.2	1025.9	200	280	2	2254
10/05/2008	16:10:00	29.0	26.1	23.7	1024.0	200	150	2	2254
11/05/2008	16:31:00	32.8	24.8	23.1	1026.5	200	270	2	2304
12/05/2008	11:15:00	35.2	23.0	23.7	1028.2	200	260	2	2345
13/05/2008	12:15:00	32.0	22.5	20.2	1027.5	200	180	2	2345
15/05/2008	10:57:00	36.0	23.5	22.2	1027.1	200	270	2	2383
19/05/2008	11:52:00	37.1	21.2	20.3	1020.7	200	250	2	2402
25/05/2008	17:38:00	35.1	22.8	21.4	1031.0	100	160	2	2497
04/06/2008	16:30:00	35.7	21.6	21.5	1022.8	100	160	2	2526
07/06/2008	12:40:00	35.2	26.6	22.2	1029.6	100	130	2	2575
30/06/2008	09:37:00	29.5	17.5	15.1	1024.8	100	150	2	2663

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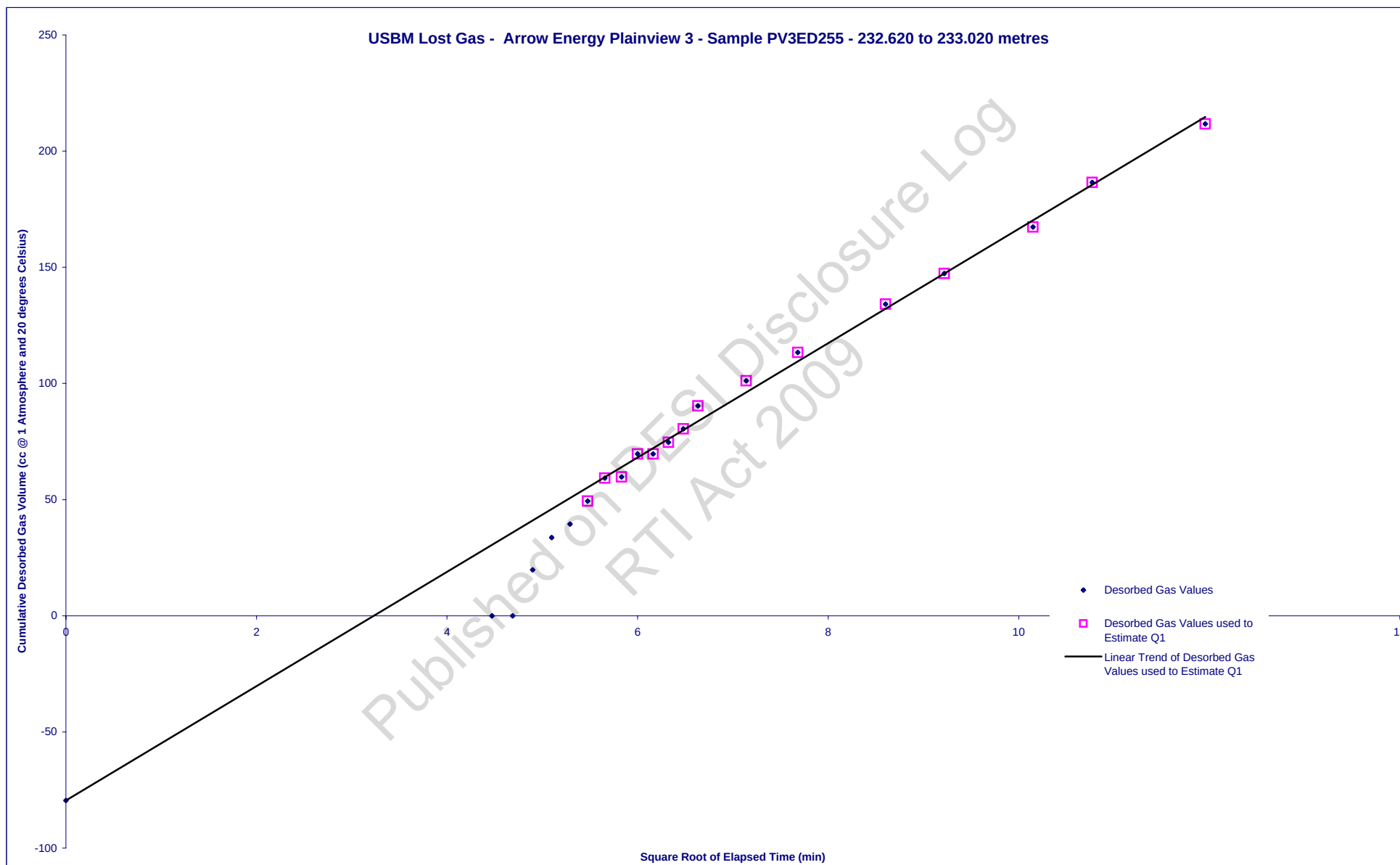
Arrow Energy Plainview 3 - Sample PV3ED255 - 232.620 to 233.020 metres

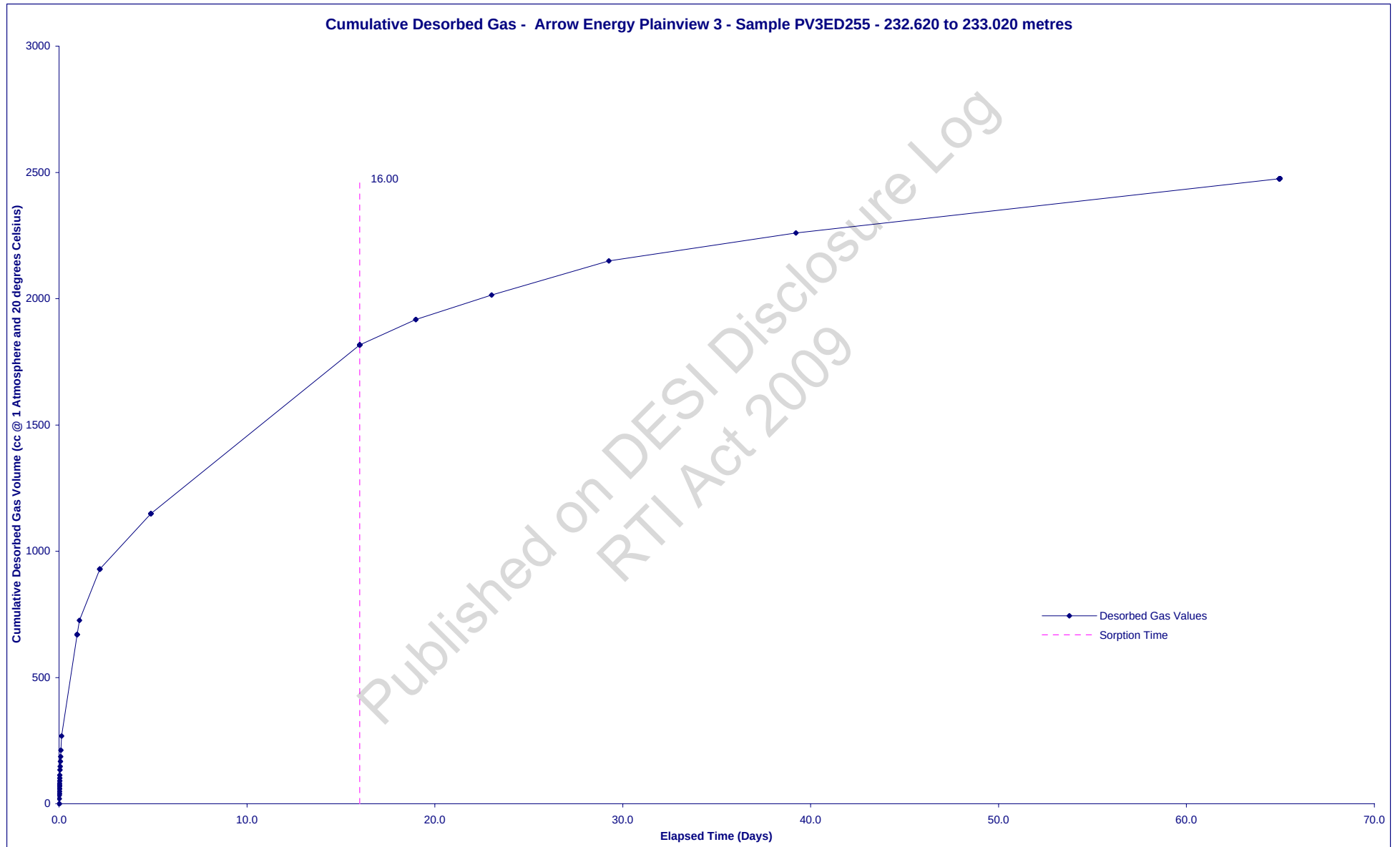
Hole Name	Plainview 3		Operator	Arrow Energy		Basin	Surat	State	QLD
Sample ID	PV3ED255	Sample Type	Core	Sample Top (m)	232.620	Sample Base (m)	233.020	Core Diameter (cm)	6.35
Sample Volume (cc)	1267	Mass (g)	1334	RD (g/cc)	1.35	Moisture (%ad)	8.2	Ash (%ad)	32.5
Q3 Volume (cc@STP)	70.35	Q3 Mass (g)	200.00	Q3 <212 µm (%)	100	Q3 Moisture (%ad)	8.2	Q3 Ash (%ad)	32.5
Can Length (cm)	57	Can Diameter (cm)	10	Can Volume (cc)	4477	Can Void (cc)	2946	Tubing Void (cc)	31
Date and Time	DD/MM/YY	HH:MM		Mud Weight (ppg)	8.3454		Trip Rate (m/min)	38.8	Minimum Q1 Point
Sample Penetrated	18/04/2008	14:38		Formation Pressure (Mpa) @ 0.433 psi/ft	2.28		Surface Time Ratio	0.700	6
Sample Off Bottom	18/04/2008	14:56		Formation Pressure Gradient (psi/ft)	0.433		Lost Time Ratio	0.020	Maximum Q1 Point
Sample at Surface	18/04/2008	15:02		Depth HSP=Formation Pressure (m)	232.34		USBM Q1 - Surface Time Correction	1.25	20
Sample Sealed	18/04/2008	15:16		Formation Temperature (°C)			Smith & Williams Q1 - Q2 Multiplier	1.000	Q1 Points Plotted
Time Zero	18/04/2008	14:56		Standard Temperature (°C)	20.00	Comments: 2.04 day time compression used between 23/04/2008:12:21 and 26/04/2008:13:15 7.84 day time compression used between			20
Last Entry	22/06/2008	13:55		Standard Pressure (hPa)	1013				-79
Network	Uncorrected USBM Q1	Corrected USBM Q1	Smith & Williams Q1	Q2	Q3	Uncorrected USBM Q1+Q2+Q3	Corrected USBM Q1+Q2+Q3	Smith and Williams Q1+Q2+Q3	Canister Head Space
m³	0.000	0.000	0.000	0.002	0.000070				☐ Volumetric
m³/tonne (raw)	0.06	0.07	0.00	1.86	0.35				☒ He Reference
SCF/T (raw)	2	2	0	59	11				Time Zero Calculation
m³/tonne (daf)	0.10	0.13	0.00	3.13	0.59	3.82	3.85	3.72	
SCF/T (daf)	3	4	0	100	19	122	123	119	
Percent of daf total	2.63%	3.26%	0.00%	81.32%	Sorption Time (days)	16.00	Diffusivity (sec⁻¹)	5.70169E-06	
Date	Time	Temperature (°C)			Abs: Air Pressure (hPa)	Inverted Cylinder			Cumulative Q2 (cc at STP)
DD/MM/YY	HH:MM	Canister	Air	H₂O		Start (cc)	Finish (cc)	Size	
18/04/2008 15:16:00		35.3	28.6	23.4	977.7	100	100	2	0
18/04/2008 15:18:00		35.2	28.5	23.0	977.7	100	200	2	0
18/04/2008 15:20:00		35.2	28.4	23.2	977.7	200	220	2	20
18/04/2008 15:22:00		35.3	28.3	23.4	977.7	220	235	2	34
18/04/2008 15:24:00		35.2	28.3	23.5	977.7	235	240	2	39
18/04/2008 15:26:00		35.2	28.3	23.6	977.7	240	250	2	49
18/04/2008 15:28:00		35.2	28.3	23.7	977.7	250	260	2	59
18/04/2008 15:30:00		35.2	28.2	23.8	977.9	260	260	2	60
18/04/2008 15:32:00		35.2	28.2	23.8	977.9	260	270	2	70
18/04/2008 15:34:00		35.2	28.1	24.1	977.9	270	270	2	70
18/04/2008 15:36:00		35.2	28.0	24.2	977.9	270	275	2	75
18/04/2008 15:38:00		35.1	27.9	24.3	977.9	275	280	2	80
18/04/2008 15:40:00		35.1	27.9	24.4	977.9	280	290	2	90
18/04/2008 15:47:00		35.0	27.6	24.7	977.9	290	300	2	101
18/04/2008 15:55:00		34.8	27.1	24.8	978.1	300	310	2	113
18/04/2008 16:10:00		34.8	26.5	24.9	978.4	310	330	2	134
18/04/2008 16:21:00		34.4	26.3	24.8	978.3	330	340	2	147
18/04/2008 16:39:00		34.2	26.9	24.8	977.7	340	360	2	167
18/04/2008 16:52:00		34.4	27.9	25.0	978.1	360	380	2	187
18/04/2008 17:19:00		35.1	27.6	25.1	978.6	380	410	2	212
18/04/2008 18:07:00		36.1	26.0	24.4	980.3	410	470	2	268
19/04/2008 05:58:00		34.2	21.2	19.8	981.3	470	740	2	566
19/04/2008 07:41:00		34.6	23.8	19.7	981.9	740	770	2	595
19/04/2008 08:26:00		35.8	23.4	20.3	981.9	770	805	2	620
19/04/2008 10:15:00		33.4	25.0	21.6	981.3	805	800	2	635
19/04/2008 14:01:00		33.0	26.6	23.7	978.3	800	840	2	670
19/04/2008 17:00:00		36.0	25.4	22.7	978.8	840	920	2	726
19/04/2008 18:20:00		33.5	22.1	22.4	980.9	920	910	2	745
20/04/2008 06:05:00		33.9	20.6	20.7	981.9	910	990	2	827
20/04/2008 11:02:00		34.3	26.1	21.8	981.1	990	1033	2	865
20/04/2008 15:53:00		36.0	24.1	22.6	978.3	1030	1110	2	924
20/04/2008 19:04:00		33.7	22.3	22.0	980.2	1110	1090	2	930

Arrow Energy Plainview 3 - Sample PV3ED255 - 232.620 to 233.020 metres

Date	Time	Temperature (°C)			Abs. Air Pressure (hPa)	Inverted Cylinder			Cumulative Q2 (cc at STP)
		Canister	Air	H ₂ O		Start (cc)	Finish (cc)	Size	
21/04/2008	06:10:00	33.1	18.9	19.8	981.7	1090	1140	2	992
21/04/2008	12:17:00	33.6	28.4	22.5	978.3	1140	1160	2	998
22/04/2008	19:16:00	32.5	25.1	24.4	980.3	100	270	2	1084
23/04/2008	12:21:00	33.8	28.0	21.9	978.1	100	200	2	1149
26/04/2008	13:15:00	36.1	29.6	21.3	972.1	100	180	2	1181
07/05/2008	09:30:00	40.2	25.4	23.5	1021.3	200	410	2	1508
09/05/2008	16:28:00	35.1	22.4	22.3	1025.9	200	310	2	1664
10/05/2008	15:42:00	29.3	25.7	23.8	1024.0	200	160	2	1664
11/05/2008	16:27:00	31.9	24.9	23.1	1026.7	200	280	2	1736
12/05/2008	11:10:00	34.2	22.8	23.6	1028.4	200	300	2	1817
13/05/2008	12:00:00	31.2	22.6	20.2	1027.7	200	210	2	1844
15/05/2008	10:53:00	35.4	23.4	22.3	1027.1	200	310	2	1918
19/05/2008	11:46:00	35.6	21.3	20.0	1021.1	200	320	2	2015
25/05/2008	17:31:00	36.7	22.9	21.4	1031.1	100	230	2	2150
04/06/2008	16:26:00	37.9	21.9	21.5	1022.8	100	250	2	2260
07/06/2008	12:17:00	37.6	26.4	22.0	1029.6	100	160	2	2331
30/06/2008	10:10:00	33.5	19.5	15.1	1024.4	100	220	2	2475

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Arrow Energy Plainview 3 - Sample PV3ED100 - 270.560 to 271.590 metres

Hole Name	Plainview 3		Operator	Arrow Energy		Basin	Surat	State	QLD
Sample ID	PV3ED100	Sample Type	Core	Sample Top (m)	270.560	Sample Base (m)	271.590	Core Diameter (cm)	6.35
Sample Volume (cc)	3262	Mass (g)	3974	RD (g/cc)	1.50	Moisture (%ad)	6.2	Ash (%ad)	18.8
Q3 Volume (cc@STP)	126.96	Q3 Mass (g)	200.00	Q3 <212 µm (%)	100	Q3 Moisture (%ad)	6.2	Q3 Ash (%ad)	18.8
Can Length (cm)	107	Can Diameter (cm)	10	Can Volume (cc)	8404	Can Void (cc)	4669	Tubing Void (cc)	31
Date and Time	DD/MM/YY	HH:MM		Mud Weight (ppg)	8.3454	Trip Rate (m/min)		45.3	Minimum Q1 Point
Sample Penetrated	19/04/2008	13:28		Formation Pressure (Mpa) @ 0.433 psi/ft	2.65	Surface Time Ratio		0.684	3
Sample Off Bottom	19/04/2008	14:25		Formation Pressure Gradient (psi/ft)	0.433	Lost Time Ratio		0.088	Maximum Q1 Point
Sample at Surface	19/04/2008	14:31		Depth HSP=Formation Pressure (m)	270.23	USBM Q1 - Surface Time Correction		1.225	29
Sample Sealed	19/04/2008	14:44		Formation Temperature (°C)		Smith & Williams Q1 - Q2 Multiplier		1.040	Q1 Points Plotted
Time Zero	19/04/2008	14:25		Standard Temperature (°C)	20.00	Comments: 8.83 day time compression used between 26/04/2008:13:15 and 7/05/2008:09:10			29
Last Entry	21/06/2008	14:35		Standard Pressure (hPa)	1013				-554
Network	Uncorrected USBM Q1	Corrected USBM Q1	Smith & Williams Q1	Q2	Q3	Uncorrected USBM Q1+Q2+Q3	Corrected USBM Q1+Q2+Q3	Smith and Williams Q1+Q2+Q3	Canister Head Space ○ Volumetric ● He Reference
m³	0.001	0.001	0.000	0.008	0.000127				
m³/tonne (raw)	0.14	0.17	0.09	2.13	0.63				Time Zero Calculation
SCF/T (raw)	4	5	3	68	20				
m³/tonne (daf)	0.19	0.23	0.11	2.84	0.85	3.87	3.91	3.80	● Auto ○ Manual ○ Cut Time
SCF/T (daf)	6	7	4	91	27	124	125	122	
Percent of daf total	4.80%	5.82%	2.99%	72.54%	Sorption Time (days)	17.02	Diffusivity (sec ⁻¹)	1.08764E-05	
Date	Time	Temperature (°C)			Abs. Air Pressure (hPa)	Inverted Cylinder		Cumulative Q2 (cc at STP)	
DD/MM/YY	HH:MM	Canister	Air	H ₂ O		Start (cc)	Finish (cc)	Size	
19/04/2008	14:44:00	30.8	27.7	24.2	978.6	100	100	2	0
19/04/2008	14:46:00	31.2	27.7	24.2	978.4	100	280	2	0
19/04/2008	14:48:00	31.4	27.8	24.2	978.6	280	320	2	40
19/04/2008	14:50:00	31.5	27.7	24.2	978.6	320	350	2	70
19/04/2008	14:52:00	31.6	27.8	24.2	978.6	350	380	2	100
19/04/2008	14:54:00	31.5	27.8	24.1	978.6	380	410	2	133
19/04/2008	14:56:00	31.3	27.9	24.0	978.8	410	440	2	168
19/04/2008	14:58:00	31.2	27.9	23.9	979.0	440	450	2	181
19/04/2008	15:00:00	31.0	27.9	23.8	979.0	450	480	2	215
19/04/2008	15:02:00	30.4	27.8	23.8	979.0	480	490	2	234
19/04/2008	15:04:00	30.5	27.6	23.6	979.0	490	510	2	254
19/04/2008	15:06:00	30.2	27.4	23.4	979.4	510	540	2	292
19/04/2008	15:08:00	30.0	27.3	23.3	979.2	540	550	2	304
19/04/2008	15:10:00	29.8	27.1	23.1	979.2	550	580	2	339
19/04/2008	15:12:00	29.1	27.1	23.0	979.2	580	590	2	359
19/04/2008	15:14:00	29.6	27.1	22.9	979.2	590	610	2	373
19/04/2008	15:16:00	29.6	27.2	22.8	979.2	610	620	2	384
19/04/2008	15:18:00	29.6	27.2	22.7	979.2	620	640	2	405
19/04/2008	15:20:00	29.1	27.3	22.7	979.2	640	660	2	433
19/04/2008	15:30:00	30.6	27.5	22.6	979.4	660	750	2	508
19/04/2008	15:41:00	31.8	27.1	22.7	979.6	750	840	2	588
19/04/2008	15:48:00	32.3	26.4	22.8	979.6	840	890	2	635
19/04/2008	16:01:00	33.1	26.2	23.0	979.6	890	980	2	720
19/04/2008	16:11:00	33.1	26.6	23.0	979.8	980	1050	2	796
19/04/2008	16:19:00	32.5	26.5	22.8	979.6	1050	1090	2	847
19/04/2008	16:30:00	32.4	25.8	22.6	979.8	1090	1150	2	914
19/04/2008	16:44:00	32.8	25.0	22.5	979.4	1150	1210	2	972
19/04/2008	16:59:00	33.3	25.4	22.7	978.8	1210	1290	2	1049
19/04/2008	17:33:00	33.5	23.6	22.9	979.6	1290	1420	2	1192
19/04/2008	18:21:00	31.9	22.3	22.1	980.9	100	370	2	1311
20/04/2008	06:08:00	32.9	20.5	19.2	981.7	370	1360	2	2399
20/04/2008	07:12:00	32.8	21.8	20.0	982.4	100	300	2	2427

Arrow Energy Plainview 3 - Sample PV3ED100 - 270.560 to 271.590 metres

Date	Time	Temperature (°C)			Abs. Air Pressure (hPa)	Inverted Cylinder			Cumulative Q2 (cc at STP)
		Canister	Air	H ₂ O		Start (cc)	Finish (cc)	Size	
20/04/2008	08:24:00	34.8	24.2	20.4	982.6	300	440	2	2549
20/04/2008	09:21:00	34.5	24.3	21.2	982.1	440	480	2	2594
20/04/2008	11:01:00	31.8	26.1	21.8	981.1	480	495	2	2643
20/04/2008	16:51:00	34.4	24.1	21.8	978.4	495	820	2	2943
20/04/2008	19:03:00	31.3	22.4	22.0	980.3	820	870	2	3050
21/04/2008	06:08:00	30.8	18.9	19.8	981.7	870	1210	2	3441
21/04/2008	09:28:00	33.4	24.7	20.4	981.7	1210	1320	2	3524
21/04/2008	12:16:00	33.2	28.4	22.5	978.3	100	170	2	3524
22/04/2008	19:18:00	31.2	25.2	24.4	980.7	150	770	2	4224
24/04/2008	07:39:00	33.2	17.9	15.8	980.3	100	940	2	5018
24/04/2008	17:31:00	33.1	25.5	22.6	976.4	950	1060	2	5121
26/04/2008	13:15:00	34.5	29.6	21.3	972.1	100	210	2	5121
07/05/2008	09:10:00	39.3	24.8	23.6	1021.5	200	320	2	5411
09/05/2008	16:14:00	36.4	22.7	22.4	1025.7	200	550	2	5845
10/05/2008	15:52:00	29.3	26.1	24.0	1024.4	200	240	2	5934
11/05/2008	16:24:00	32.8	25.1	22.9	1026.3	200	250	2	5940
12/05/2008	11:03:00	35.8	23.2	23.6	1028.4	200	350	2	6065
13/05/2008	11:55:00	32.0	23.0	20.1	1027.7	200	180	2	6073
15/05/2008	10:48:00	37.3	23.4	22.3	1027.1	200	510	2	6341
19/05/2008	11:29:00	36.8	21.6	20.2	1021.3	200	600	2	6722
25/05/2008	17:31:00	35.6	22.9	21.4	1031.1	100	550	2	7215
04/06/2008	16:25:00	36.9	21.9	21.5	1022.8	100	700	2	7763
07/06/2008	12:17:00	35.9	26.4	22.0	1029.6	100	210	2	7839
30/06/2008	10:30:00	32.4	19.7	15.8	1023.8	100	640	2	8458

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