DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Report on Coal Resource exploration assessment program drilling and related activities April 1986 to May 1987 Southern Sind Province, Pakistan:

LITHOLOGIC LOGS

Open-File Report 88-275-B

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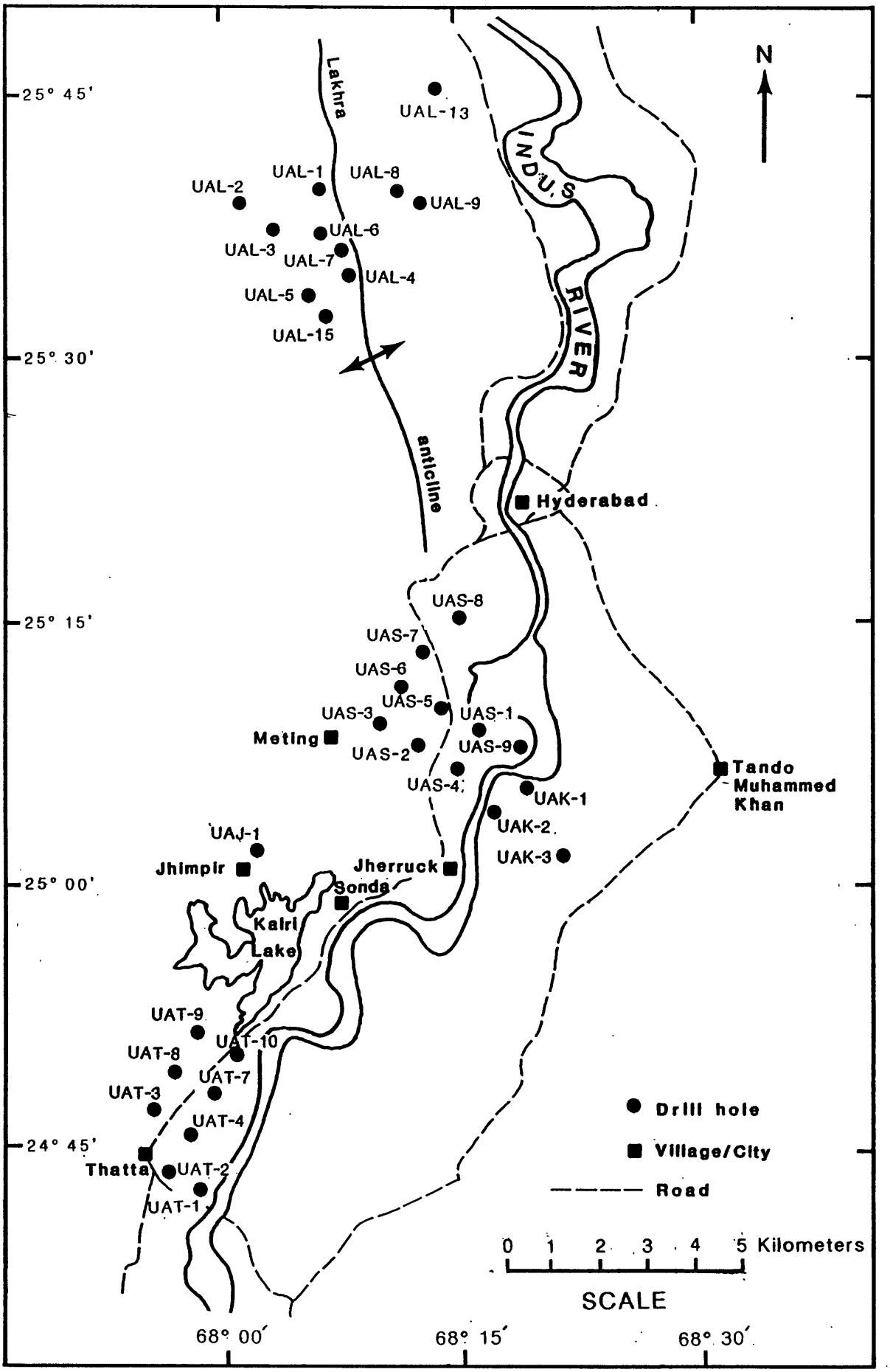
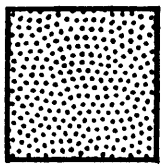
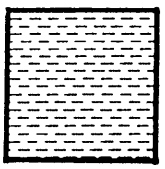


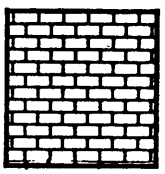
Figure 1.-General location of drill holes

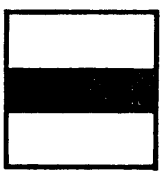
1a.

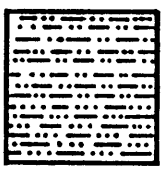
EXPLANATION OF LITHOLOGIC SYMBOLS USED


Sandstone


Shale/Claystone

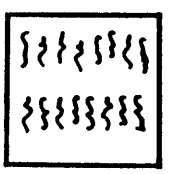

Limestone

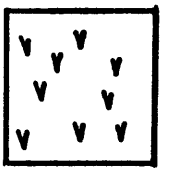

Coal

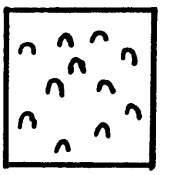

Siltstone

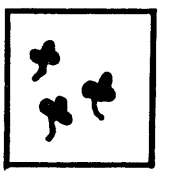

Mudstone

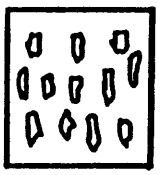

Carbonaceous shale

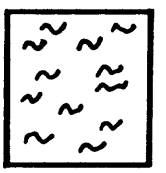

Underclay

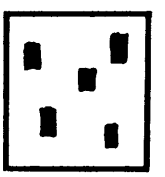

Alluvium

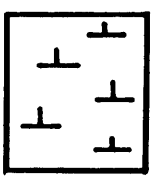

Fossil shell fragments

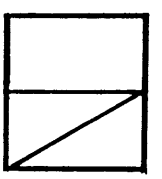

Fossil plant fragments


Fossil hash


Glauconite


Pyrite


Calcareous


Core loss

DRILL-HOLE NO UAL-1

1 of 11

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					0			Drilling (non-core) began 13:04 15 april 86
0	3.05	NO CORE			1 2 3		3.05	Sand, brown red, f-c gr, with lithic pebbles, weathered, surficial lag deposits. 3.05
3.05	4.57				4		1.52	Sand, yellow brown, f-c gr., weathered, a few lithic fragments. 4.57
4.57	6.10				5 6		1.53	Sand red, f-m gr contains hd red clay fragments which are probably bedded, weathered. 6.10
6.10	7.62				7		1.52	Sand, buff, f-m gr., mostly quartz with some lithic material. 7.62
7.62	9.14				8 9		1.52	Sand, brown buff, m-c gr, with clay fragments, chert grains, gypsum 9.14
9.14	10.65				10		1.51	Sand, as above, with silty clay fragments. 10.65
10.65	12.18				11 12		1.53	Sand, as above 12.18

DRILL-HOLE NO. MAL-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					12			
12.18	13.69	NON CORING			13		1.51	Drilling stopped 15:14 - out of diesel no lights for night drilling; Resumed 07:25 4/16/86 Claystone, (80%) brown, sl silty, some siderite & limonite stain; Sand (20%) f gr, clean. 13.69
13.69	15.24				14		1.55	Shale (70%), dark gray, sl carbonaceous, sl fissile; Limestone, sandy, (20%) sl sparry; fossil fragments, may be Lower Fossil Bed?; sandstone (10%), f gr, clean (core from top - Tongue of Bara? 15.24
15.24	18.24	3.00	0.56		15.24		0.29	Sandstone, white with red clay (hematite) matrix yellow at top, vf-f gr scattered m gr, well sorted, minor dark minerals, subangular, weathered 15.48
							0.12	
					16		2.39	Sandstone, gray with yellow streaks, vf-m gr, poor sorted, massive, friable 15.60
					17			Core loss - fine brown & red SS in flow 18.04
					18		0.20	Sandstone, white to brown, vf-m gr fines down, well sorted to mod sorted down, base has shell frgmts, bivalves, forams or pellet casts 18.24
18.24	18.78	0.54					0.54	CORE with HCl: Sandstone, lt gray to grayish brown, vf-m gr, soft & hard pellets, friable, calcareous subrd-subang, quartz, very fossiliferous 18.78
18.78	19.02	0.24					0.24	Sandstone, as above, few glauconite grains 19.02
19.02	20.34	1.32	1.32		19		0.40	Sandstone, yl brn-brn, f-m gr, subang-subrd, soft 80% qtz, black Fe min. 19.42
							0.42	Sandstone, gray-dk gray, f-m gr, hard, compact, 19.84 qtz, fossiliferous, brown Fe patches, glauconite
							0.18	20.02 Sandstone, yl brn-brn, f-m gr, subang-subrd, soft 80% qtz 20.29
					20		0.27	Sandstone, as above, hard 20.39
							0.05	Sandstone, soft loose.
20.34	22.00	1.66	1.10		21		0.86	Sandstone, brown to earthy brn, f-m gr, angular to subang, soft loose, calc & Fe concretions & patches. 21.19
							0.25	Sandstone as above, hard, compact, clayey 21.44
							0.56	Core loss - soft sandstone. 22.00
22.00	24.29	2.29	1.90	M	22		0.39	Core loss - soft sandstone as above. 22.39
							0.22	Sandstone as above, soft, loose. 22.61
					23		0.77	Sandstone, red and white mottled, f-m gr, poorly sorted, subang, very calc, hematitic at base, shell fragments, gastropods, pelecypods, & forams?, very hard, coaly wood fragments 23.38
					24		0.87	Sandstone, tan, vf-f gr, muddy, poorly sorted, subrd, friable. 24.25

DRILL-HOLE NO HAL-1

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CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					24		0.04	Mudstone, brick red, hematitic, bladed gypp xstals 24.25 24.29
24.29	27.29 3.00	3.00			25		1.13	Sandstone, very muddy, brick red, hematitic siderite? or limonite rods, about 1 cm disk of vein gypp at top, massive, weathered 25.42
					26		1.70	Sandstone, gray, f-vf gr., few yellow limonite stains, massive, friable, tabular concentrations of hematite and limonite 27.12
					27		0.17	Sandstone, brick red, vf-f gr, muddy hematitic, mod friable, few limonitic stains in lower part. 27.29
27.29	30.29 3.00	2.09			28		0.33	Sandstone as above, yellow + friable in lower part 27.62
								Core loss in sandstone. 28.00
							0.91	Shale, silty, gray, with patches of Fe stain yellow, 28.62
							0.04	Sandstone, yellow mottled with red, hard, f gr, few thin veinlets of gypp, fair sorting, muddy streaks 28.73
					29		0.31	Sandstone, brick red and yellowish, f gr, subrd, fair sorting, some interlaminated shale, thin gypp bands 2 to 3 cm thick, 29.12
							0.19	Sandstone as above, yellowish 29.19
							0.01	Sandstone as above, friable 29.30
							0.11	Shale, grey to yellow grey, laminated brown f gr sandstone, gypp flecks 29.49
							0.19	Mudstone with thin Sandstone laminae, carbonaceous 29.68
					30		0.80	
30.29	31.15 0.86	0.84					0.84	Mudstone, small carbonaceous flakes and blobs, marcasite as above. 31.13
					31			0.02 core loss 31.15
31.15	34.15 3.00	3.00			32		2.60	Sandstone, gray, f. gr, mod hard, muddy, subrd few carbonaceous flakes, sparse marcasite and resin, massive, quartzose.
					33			33.75 Sandstone, lt gray to gray, f-m gr, less muddy than above, friable, quartzose, hard compact sandstone 3 cm thick in middle.
					34		0.40	34.15
34.15	35.00 1.40	1.40					0.38	Interbedded sandstone and siltstone; sandstone, gray - dk gray, f gr. siltstone, dark gray; Unit semi hard and compact, f c + mg mineral grains, carbonaceous flakes, resin and pyrite. 34.53
					35		1.60	Core loss in sandstone
					36			36.13

DRILL-HOLE NO. 11A2-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					36			Sandstone, as above. 36.60
	37.15						0.47	Claystone, dark gray, slightly silty, mod compact, mod hard, carbonaceous flakes, 36.86
							0.26	
					37		0.29	Sandstone, gray-dk gray f gr, same as above. 37.15
37.15	38.05	0.90					0.28	Sandstone, gray-dk gray VF-F gr, clayey, silty, sl compact, subang-subrd, unsorted. 37.43
							0.30	Sandstone as above, soft friable, carb flakes 37.73
							0.08	Sandstone as above, hard, compact 37.81
					38		0.24	Sandstone as above, soft, friable. 38.05
38.05	39.79	1.57					0.10	Sandstone as above, soft, loose 38.15
							0.17	Loss in sandstone 38.32
							0.59	Sandstone as above 38.91
					39		0.88	Sandstone, gray to dark gray, f-m gr, subang-subrd, micaceous, semi hard and compact, friable, slightly clayey at places. 39.79
39.79	40.55	0.12					0.12	Sandstone, gray to dk gray, VF-F gr, alternate layers of claystone, carb flakes, mod hard + compact 39.91
					40		0.64	Loss in SS 40.55
40.55							0.14	Sandstone, gray to dk gray, f-m gr, clayey in places, mod hard and compact, micaceous 40.69
							0.17	Loss in sandstone 40.86
					41		0.14	Sandstone as above 41.00
	43.15	0.75					0.19	Sandstone, gray to dk gray, f-m gr, subang to subrd, unsorted, carbonaceous clay in bands and layers, soft + loose but mod compact. 41.19
	2.60				42		1.68	Loss in sandstone 42.87
								Sandstone as above
					43		0.28	43.15
43.15	44.03	0.88					0.88	Claystone, dk gray to black, sandy, mod hard + compact, carbonaceous layering, sparse resin, disseminated pyrite. 44.03
44.03					44		0.76	Siltstone, dk gray, sandy, some thin interbeds of f gr sandstone, non-calcareous, mica, scattered bivalve fossil, sand filled vert burrows, poor planar bedding, cohesive, 44.79
	46.15	2.12			45		0.90	Sandstone, silty, dark gray, grades upward, faint laminations, pyrite nodules in lower part, muddy, massive upper part. 45.69
								Carb shale, black, clayey, laminated, clay bands + lenses, scattered pyritic lenses, resin, a few gypsum bands, carbonized plant fragments, 46.15
					46		0.46	
46.15							0.21	Carb shale as above 46.36
	49.15	3.00			47		2.84	Mudstone, m dk gray, sl carbonaceous, clay and silt with lgt bs lamella, coaly specks, disseminated pyrite or marcasite, clay and silt clasts and regular lt brn clay lamella ½ to 4 mm at base coarsens downward, 55 lam are white, VF-F gr, mod sorted- Mud Flat? 49.15
					48			

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	THICKNESS	LITHOLOGIC DESCRIPTION
49.15	49.15				48–49		49.30
	2.95	2.95			49.30–52.10	2.80	mudstone, silty, gray ~~with thin bands of~~ f gr SS, mudcracks on bedding surfaces, few gyp bands, scattered pyrite, disseminated carbonaceous material, amount of sandstone increases down to interbedded mudstone and sandstone. 52.10
52.10	52.10						
52.10	2.53	2.40			52.10–54.50	2.40	Sandstone with three bands of hard and compact siltstone 3 to 5 cm thick at 88 - 168 - 202 cm from top. Sandstone, gray, f gr, soft, subrd, well sorted, quartzose, sparse black Fe/Mg mineral grains; bottom 1 to 2 cm is mudstone/siltstone. 54.50
	54.65					0.15	Loss in sandstone 54.65
54.65 (Run 54.65–55.00)	55.00	0.30				0.17	0.04 mudstone, gray, sl sandy; 0.07 sandstone, indurated; 0.19 claystone/mudstone gray; 0.05 Loss 55.00
55.00						0.05	
						0.26	Claystone, gray - dk gray, carbonaceous, f gr sandy layers and concretions are hard, compact, subang - subrd, poorly sorted. 55.26
	2.80	0.62				0.12	Sandstone, lt-gray to gray to dk gray, f-m gr, subrd to subang, 90% qtz, mica, soft, loose, fri. 55.38
						1.50	Loss in sandstone 56.88
						0.24	Sandstone, gray, f gr, subang to subrd, interbedded with gray claystone as above. 57.12
	57.80					0.68	Loss in sandstone 57.80
57.80	1.28	0.25				0.25	Sandstone, gray, f-m gr, subang to subrd, soft, loose, friable, mica, coal ptgs, thin clay bands, siliceous concretions. 58.05
	59.08					1.03	Loss in sandstone 59.08
59.08	1.72	1.72				0.10	Sandstone, gray, vf-m gr, loose, semi compact, mod sorted, thin clay bands + layers - clay increases down gradually. 59.18
					60	1.62	Sandstone, lt gray to dark gray, mod hard + 60.80

Left margin: 49.15; 52.10; 54.65 Run 55.00; 57.80

Margin	CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	THICKNESS	LITHOLOGIC DESCRIPTION	Base
		60.80				60		compact, vf-m gr, subang to subrd, mod sorted, clays increased down gradually	60.80
60.80 – 61.50	60.80	61.50	0.70			61	0.70	Mudstone, gray to lt gray, mod hard + compact, coaly patches and ptgs, sandy + silty.	61.50
61.50	61.50	1.75	1.35			62	1.35	Mudstone as above, dark gray-brown, minute disseminated coal specks, [illegible], soft sed deformation at top, cross bedded at base, SS, siltst and clayst laminae up to 3 cm, planar + ripple X bdd, SS lenses = reentrants?	62.85
		63.25				63	0.40	Loss in sandstone	63.25
63.25	63.25	2.69	1.95				0.70	Sandstone, silty, gray, f gr, ripple Xbd, thin laminations of siltst and clayst. carbonized plant impressions; disseminated carb material.	63.95
						64	1.15	Claystone, gray, thick laminations, silty, scattered carbonized plant fragments.	65.10
						65	0.74	Core loss - driller says loss at top of run.	65.84
		65.94					0.10	Coal, shaly, dull, black, fine laminated, clayey, resin, dense. Sample UAL-1-A1	65.94
65.94	65.94	66.34	0.36			66		0.04 core loss	65.98
							0.36	Coal, dull, black, laminated, fractured, resin, shaley, Sample UAL-1-A2	66.34
	66.34	66.77	0.38				0.11	Shale, carb, coaly, black, lam, fissile, UAL-1-A3	66.45
							0.27	Mudstone, carb, black, dull, thin clayey, resin, coaly	66.72
							0.05	Loss	66.77
66.77	66.77	1.11	1.05			67	0.27	Coal, dull, brn black, fractured, resin specks abd, clayey, lam. Sample UAL-1-B1.	67.04
							0.11	Carb shale, brn black, heavy, dense, massive UAL-1-B2	67.15
							0.58	Coal, black, upper half lamb, pyrite (UAL-1-B3) lower half shaly, resin (UAL-1-B4).	67.73
		67.88					0.09	Sandstone, carb, muddy, m gr, soft	67.82
							0.06	Core loss in SS	67.88
67.88	67.88	68.35	0.47			68	0.47	Sandstone, gray-dark gray, f-m gr down, laminated, coaly flakes give alternating lt and dk laminae, sparse marcasite patches.	68.35
68.35	68.35	1.64	1.63			69	1.63	Sandstone, gray to dark gray, vf-m gr, mod hard and compact, subang to subrd, mod sorting, thin bands and layers of carb material, at places carb clay, X lam. 0.01 core loss at base incl in unit	69.98
69.99		69.99							
	69.99	1.32	1.27			70	0.92	Sandstone, gray to dark gray - as above	70.91
							0.05	Loss in sandstone	70.96
71.31		71.31				71	0.35	Sandstone, gray to dark gray - as above	71.31
	71.31	1.70	1.68			72	1.02	Claystone, gray to dark gray, sandy, silty, carb layering and patches, mod hard + compact.	72.33

	CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	THICKNESS	LITHOLOGIC DESCRIPTION	
						72			72.33
								0.02 Core loss in Claystone	72.35
							0.53	Claystone as above, with ~~thin~~ bands of lt gray, f gr, sandstone.	72.88
		73.01				73	0.13	Coal, dull, brn-blk, sl clayey, laminated, fractured, resin specks, bands of dull and sub vitrain	73.01
	73.01	1.08	0.88				0.22	Coal, same as above Sample UAL-1-C1 72.88-73.23	(73.23)
							0.10	Core loss - coal ?	73.33
							0.15	Claystone, gray to dk gray, sandy, silty, carb layering mod hard + compact.	73.48
							0.10	Core loss - claystone	73.58
							0.31	Claystone as above	73.89
		74.09				74	0.20	Coal, black, alt bands dull + sub vit, lam, gyp, resin; GSP Sample	74.09
	74.09	74.59	0.50				0.50	Claystone, gray - dark gray, v carb, hard, compact, coaly layers and ptgs, marcasite specks,	74.59
	74.59	0.76 / 75.35	0.63			75	0.63	Claystone, as above, middle 0.30 lt gray less carb,	75.22
							0.13	Core loss - claystone	75.35
	75.35						0.04	Core broken - gray claystone and coal pieces	75.39
						76	0.62	Coal, brn to black, dull, brown, boney lenses, abd resin, sparse pyrite, poor cleat, fissile, dirty, clayey base, Sample UAL-1-D1	76.01
		2.38	1.79				0.61	Core loss - coal ?	76.62
							0.05	Carb shale, v sandy, v hard, brn black top of core ground	76.67
						77	0.50	Siltstone, gray, v sandy, coarsens down, abd coaly root material, soft sed deformation	77.17
							0.52	Sandstone, gray, f-vf gr, well sorted, subrd-rdd massive, friable.	77.69
77.73		77.73					0.04	Claystone, lt gray, with hard, dark gray silty clasts 1mm ~~thick~~.	77.73
	77.73	0.55 / 78.28	0.42			78	0.22	Claystone, lt gray, ~~thin~~ carb flakes, + laminae increase down, disseminated pyrite	77.95
							0.20	Carb shale, lower half bone, marcasite	78.15
							0.13	Core loss	78.28
							0.11	Carb shale as above	78.39
	78.28	78.72	0.44				0.22 / 0.11	Underclay, lt gray, coaly and woody root materials + some slicks, lower 0.11 dropped + recovered in next run	
78.72	78.72	0.96 / 79.68	0.96			79	0.96	Claystone, sl silty, lt gray to gray; basal 20 cm grades to sandy, turbated claystone/mudstone	79.68
	79.68					80	0.47	Siltstone, lt gray, f sand grains, noncalcareous concretions of sand, pyrite	80.15
		2.26	2.26				0.76	Sandstone, lt gray, vf gr, silty, various sized burrows filled with silty sed, irregular dark patches.	80.91
		81.94				81	1.03	Sandstone, dark gray f gr, cavity fillings, irregular dark patches, abd burrows, non calcareous, a 5cm thick layer of well sorted, white, f gr, sand near base.	81.94
	81.94	3.00	3.00			82 / 83	1.17	Sandstone, silty, dark gray, vf gr, black and brown grains, lt gray hard ellipsoid and elongate sedimentary structures, black specks.	83.11
						84	1.83	Sandstone, lt gray, f gr, thinly laminated, X laminated, alternate light and dark	

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	84.94				84			shades of gray toward base, basal 0.09 m dropped but recovered in next run. 84.94
84.94	3.00 87.94	3.00			85 86 87		3.00	Sandstone, clayey, lt to dk gray, vf gr, subang to subrd, poorly sorted, black + f. specks, alternating lt and dk gray laminations, convolute laminations, 87.94
87.94	3.00	2.10			88 89		2.10	Sandstone, muddy (clayey), gray, vf-f gr, soft, few dark grains, few bands and lenses 1 to 5 cm thick of hard, lt brn gray sandstone. 90.04
	90.94				90		0.90	Core loss - sandstone as above, soft, friable. 90.94
90.94	1.71	0.70			91		0.70	Sandstone, gray, vf-f gr, clayey, muddy, grades down to c gr muddy ss, 78% quartz, 20-30% clay, 1-2% Fe/Mg grains, lower 3 cm carbonaceous, dark brn gray, laminated, sl clayey. 91.64
	92.65				92		1.01	Core loss in sandstone (Probably) 92.65
92.65	93.04	0.36						0.03 Core loss 92.68
								0.03 Sandstone, blk-gray, f gr, loose, poorly sorted 92.71
					93		0.33	Sandstone, lt gy, m gr, qtz - well sorted, massive, cl 93.04
							0.07	Core loss - SS 93.11
93.04	1.03 94.07	0.96					0.96	Sandstone, same as above, middle part more coarse and friable, subrd-subang, green colored grains of ? prominent 94.07
94.07	0.59 94.66	0.50			94		0.13	Sandstone, gray, f-m gr, poor sorted, loose. 94.20
							0.09	Core loss - SS 94.29
							0.37	Sandstone, gray-dk gray, f-m gr, poor sorted, some carb clay layers hard & compact, mainly loose. 94.66
94.66	0.88 95.54	0.84			95		0.84	Sandstone as above, micaceous 95.50
							0.04	Core loss - SS 95.54
95.54					96			

DRILL-HOLE NO UAL-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	1.35 / 96.89	1.35			96		1.35	Sandstone, gray to lt gray, vf-m gr, subang to subrd, mod sorted, sl clayey, gyp, loose micaceous. 96.89
96.89	1.38 / 98.27	1.38			97, 98		1.38	Sandstone as above, darker gray, more clayey, carb and Ferrug bands and layers. 98.27
98.27	1.70 / 99.97	1.70			99		1.18	Claystone, gray to dark gray, v carb, coaly ptgs, hard, compact. 99.45
							0.22	Coal, brn black, laminated, alternating bands of dull and sub vit, pyr, resin, core broken Sample UAL-1-E. 99.67
							0.30	Sandstone, gray to dark gray, f-m gr, subrd to subang, poor sorted, sl clayey, sl carb, semi hard 99.97
99.97	2.91 / 102.88	2.91			100, 101, 102		2.91	Mudstone, dark gray, grades with overlying SS, grades down from massive (1 m) to finely laminated. some X lam, dark gray silty claystone and cream white sandy siltstone lenses to 3 cm thick and laminae to 5 mm, small aragonite bivalves 2-3 mm, abd pyr fossil replacement, sl carb. 102.88.
102.88	2.26 / 105.14	2.26			103		0.61	Claystone, black gray, alternating fine laminae of lt gray siltstone, lenses and pockets of f gr sand. 103.49
							0.50	Sandstone, silty, dark gray, vf gr, abd scattered carb material, well preserved aragonite shells of gastropods and fragments, various size incl of brn gray siltstone. 103.99
					104		0.60	Sandstone, med gray, alternating with thin laminae of dark gray carb claystone, poor sorting, abd traces of grn grains (tourmaline?) in lower 15 cm 104.59
							0.03	Carb Shale, blk gray, lam, pyr.
							0.15	Coal, lignite, dirty, high ash?
					105		0.37	Carb Shale as above, some grn gray claystone incls 105.14
105.14	0.90 / 106.04	0.90					0.67	Claystone, blk gray, v carb, lignite fragments, finely laminated, grn silty incls, 2 cm soft layer in middle 105.81
							0.23	Coal, brn black, dull to sub vit, subbit(?), laminated, broken core Sample UAL-1-F1 106.04
					106		0.11	LOSS 106.15
106.04	1.99 / 108.03	1.88					0.33	COAL, DULL BLK-BRN, V. SHALEY, POORLY BANDED, NO CLEAT, SLIGHTLY FISSILE, SOME CONCHOIDAL FRACTURE; NO PYRITE OR RESIN OBSERVED UAL-1-F2 106.48
							0.39	Carb sh, dark brown, v. fissile, qtz, pyrite, COALY PLANT FRAGS SHALIER TOWARDS BASE 106.87
					107		0.14	CARB SS, BLACK, VF-F GR, RND-SUBRND, POORLY STD, SHALEY, SILTY 107.01
							0.17	V. CARB SH, BRN-BLK, V. FISSILE, COALY 107.18
							0.37	SH, LT. BROWN-GRAY, SLIGHTLY CARBY, BASE & TOP MORE CARBY SLIGHTLY SILTY, COAL PLANT FILMS, PYRITE 107.55
							0.42	SS, LT. GRAY, WELL-SORTED, SUBRND-SUBANG, MASSIVE, MINOR DARK MINERALS 107.97
					108		0.06	CORE LOSS 108.03

104.59
.97
.63
.15
.37 .52
.55

DRILL-HOLE NO UAL-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					108		0.05	Core loss in sandstone. 108.08
108.03							0.08	Sandstone as above 108.16
							1.15	Sandstone, silty, with altern silty laminae, v f-f gr, lt-dk gray, carb laminae and coaly lenses, Fe O stain. 109.31
	2.65	2.60			109			Siltstone, lt gray, with altern brn gray claystone laminae and bands, laminae and ptgs of coal, claystone bands to 2½ cm thick; coal laminae bdrn 3 cm unit 11 cm above base. 110.81
							0.70	Claystone, v carb, blk gray, thin lenses and ptgs of coal, carb shale in basal 0.01. 110.11
					110		0.10	Coal, dull, blk brown, mod cleat, clean, small bony patches, abd pyr/marc films + lenses, samples: UAL-1-G1 (110.11-110.36) UAL-1-G2 (110.36-110.61). 110.61
	110.68						0.50	Underclay, gray, slicks, fissile, rooted. 110.68
							0.07	Claystone, gray to dk gray, v carb, coaly ptgs. 110.90
110.68							0.22	Coal, brn black, soft, fissile, laminated, platy. 110.93
					111		0.03	Claystone, gray to dk gray, v carb, silty + sandy, coaly ptgs, plant fragments, sand increases down. 111.65
							0.72	Sandstone, gray to dk gray, f-m gr, subang to subrd, unsorted, patchy clay and carb material, semi hard, mod compact, interbds of carb claystone at places.
	3.00	3.00			112			
					113		2.03	
	113.68							113.68
113.68								Sandstone, dark gray, vf-m gr, silty, massive, SS clasts in upper 27 cm, burrow, near top filled with coarse sand grains, v fossiliferous, thin irregular coal ptgs. 114.57
	0.91	0.89			114		0.89	Core loss 114.59
	114.59						0.02	Carb shale, brn black, laminated, fissile, coal ptgs. 114.82
114.59							0.23	Coal, dull, brn black, silty, pyr, fissile 115.04
					115		0.22	Claystone, blk gray, upper 5 cm v carb, silty, massive, compact, laminated near top. 115.62
							0.58	Sandstone with altern laminae of siltstone. SS is med gray, vf gr, subang to subrd, poor sorted, siltst is dk gray, harder, more compact. Abdnt burrow at base filled with green gray c gr sand. 116.37
	1.78	1.78			116		0.75	Core loss - SS 116.42
	116.37						0.05	Sandstone, lt gray, f gr, silty, carb, laminated to massive 116.59
116.37							0.17	Carb shale, blk to brn black, massive 116.69
							0.10	Claystone, silty, blk gray to dk grn gray, massive to laminated down, ptgs and fragments of lignite, resin, marc, shell frag, scattered. 117.27
					117		0.58	Coal, lig, brn black, soft, dull, fractured, grades down 117.52
	1.65	1.60					0.25	Carb shale, blk brown, lams, soft, coal ptgs, "dirty coal" 117.66
							0.08	Sandstone, lt to dk gray, altern laminae of claystone, fine coal-fused laminae. 118.02
	118.02						0.42	Sandstone, lt to dk gray, f gr, subrd to subang, poor sorted, laminated, silty. 118.68
118.02					118		0.58	COAL, WITH FIGR SS LENSES, SHALEY, DULL BLACK, BURROWED? 118.82
	1.05	0.95						COAL, BROWNISH BLACK, DULL UAL-1-H 118.94
	119.07						0.22	CARB SH, DARK BLACKISH BROWN, RESINOUS, FINE COAL PARTINGS, MASSIVE - FINELY LAM 119.06
							0.12	CORE LOSS 119.13
					119		0.07	COAL, BROWNISH BLACK, BROWNISH STREAK, LAMINATED, DULL, FLAKY (0.03) 119.15
							0.18	SHALE, dark gray-BLACK, HIGHLY CARBY, COALY LAYERS 119.35
							0.20	COAL, BROWNISH BLACK, SOFT, FRIABLE 119.39
							0.04	CORE LOSS, PROBABLY COAL. 119.42
							0.03	
					120			next pag

DRILL-HOLE NO WAL-1

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CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	120.87				120		1.40	claystone, dark gray to black, very carby, thin alternate laminae of fine grained sand. Sand percentage increases downward, grading into sandstone
								120.82 core loss, probably sandy claystone 120.87
120.87	3.00	1.65			121		0.85	Claystone, dk gray to black, v carb + coaly layers, thin layers of gray f gr sandstone
								121.72
					122		0.45	Claystone, lt gray to gray, carb, thin coaly strgs.
								122.17
							0.35	Sandstone, gray to dark gray, f-m gr, subang to subrd, poorly sorted, micaceous, loose, 122.52
	123.87				123		1.35	Core loss in sandstone
								123.82
123.87	2.85	1.65			124		0.55	Sandstone as above
								124.42
							0.60	Core loss in sandstone
					125			125.02
							0.50	Claystone, gray to dk gray, v carb, coal patches + layers, hard, compact, sticky
								125.52
	126.12				126		0.60	Claystone, gray to lt gray, silty + sandy, sl carb, mod hard, compact.
								126.12
126.12	3.00	2.75			127		2.75	Sandstone, gray to dk gray, f-m gr, poor sorted, upper part semi hard + has carb layers, lower part only sl carb + loose, qtz 80% poorly cemented
					128			
								128.87
	129.12				129		0.25	Core loss in sandstone 129.12
					130			TD 129.12

DRILL HOLE NO CAL-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0	1.5				1		1.5	Soil, brown, silty, sandy, slightly calcareous
1.5	3.0				2		1.5	Sand, buff, F gr, mostly qtz, calcareous, lithic frags, subrnd., partly consolidated
3.0	7.5	NON CORING			3 4 5 6 7		4.5	Sand, as above, more consolidated (the height of the ODEX casing and high winds make collection of cuttings extremely difficult)
7.5	9.0				8		1.5	Sandstone, as above
9.0	10.5				9 10		1.5	Sandstone, brownish buff, mostly iron stained qtz, some dark grains, F-M gr, calcareous, subrounded
10.5	12.0				11 12		1.5	Sand, as above, slightly calcareous

ALLUVIUM / BLOW SAND

DRILL-HOLE NO UAL-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					11			ALLUVIUM / BLOW SAND
12.0					12			Sand, as above, a few lithic fragments
	15.0				13		3.0	
15.0					14			
	15.5				15		0.50	Sand, as above, few gyps grains
		NON-CORING			16		2.50	Limestone, white, chalky, earthy
	18.65				17			
18.65					18		0.65	Limestone, white to cream, earthy, chalky, a few angular gyps frags.
	21.49	2.84	2.5		10.99 19		0.34	CORE LOSS 18.99
					20		1.26	Sandstone, light brown - light yellow brown, fine - med gr, hard, compact, massive, gypsiferous, slightly calcareous.
					20.25			20.25
					21		1.24	Limestone, cream yellow - off white, light brown, chalky, with hard, compact sandy layers.
					22			

LAKE LS

DRILL-HOLE NO UAL-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					21			
21.49								CORE LOSS
					22		0.93	Sandy limestone, light brown - yellowish brown, hard compact
					22.82			22.82
	2.92	2.52			23		1.59	Limestone, cream - off white, chalky, Hard, compact, ferruginous at places, fossiliferous, solution cavities, very thin gyps veins, clay pockets at base
	24.41				24			24.41
24.41							1.23	Limestone, off white - light yellow, chalky, hard compact, solution cavities, calcite veins & patches slightly ferruginous, nodular, highly fossiliferous (forams), gypsum replaced gastropods
					25			25.64
	3.02	1.23			25.64			
					26		1.79	CORE LOSS
	28.43				27			
					27.43			27.43
27.43							1.30	Limestone, cream - off white, hard compact, nodular fossiliferous, gyps veins, slightly ferruginous, soft and chalky at bottom
					28			28.73
	2.60	1.30			28.73			
					29		1.31	CORE loss
	30.03				30			
30.03							0.45	Limestone as above
	30.48	0.45						
					31			
					32			

DRILL-HOLE NO UAL-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30.49					31		2.01	Limestone, off white - yellowish brown, hard compact, massive, fossiliferous, very thin gyps veins, Becomes sandy at base
	31.83	0.34						
	32.13	2.30			32			
					32.50			
					32.79		0.29	Sandy limestone, yellowish brown, hard, compact, fine-medium gr. massive, highly foraminiferal
32.93					32.83	X	0.04	CORE LOSS
	33.48	0.59			33		0.59	Sandy limestone as above
					33.42	X	0.06	CORE LOSS
33.48	33.78	0.26			33.94		0.26	Sandy limestone as above
33.78					34		0.77	CORE LOSS ~~probably~~ silty claystone JRS
								34.51
							0.05	Sandy limestone as above
								34.56
	35.68	2.10	1.32					Silty clay - core broken
					35			34.60
							1.32	Micritic limestone, silty, sandy, light gray to gray, compact massive, few foram's
								35.92
35.89					36	X	0.04	CORE LOSS
	36.48	0.53					0.49	Micritic limestone as above
36.48								36.48
	36.91	0.25					0.25	Claystone, dark gray, core broken
								36.73
36.81						X	0.17	CORE LOSS
								36.89
	37.32	0.42			37		0.42	Claystone as above, base marly
37.32								37.32
	37.66	0.34						Micritic limestone/marl, light gray - gray, hard, fossil fragments, upper 15cm is argillaceous & sticky, small fe oxide patches, forams
37.66							0.91	
					38			
								38.23
							0.16	Claystone, mudstone, dark gray, compact, calcareous, silty, forams
								38.39
							0.13	MICRITIC Limestone/MARL as above light grey hard.
								38.52
							0.43	CLAYSTONE/MUDSTONE dark grey to grey less hard as above
								38.95
					39		0.52	MICRITIC LIMESTONE/MARL light grey to grey hard as above forams
	39.47	1.88						39.47
							0.07	CLAYSTONE/MUDSTONE: dark grey & grey - less hard as above silty, highly calcareous
39.54							0.21	MICRITIC LIMESTONE/MARL light grey to gray. hard silty carbonaceous.
								39.54
								39.75
							0.12	MUDSTONE grey & dark grey with occasional thin carbonaceous flecked, silty and sandy
					40			MICRITIC LIMESTONE as below
								39.87

DRILL-HOLE NO UAL-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							0.25	MICRITIC LIMESTONE / Marl. light grey to grey. hard becomes silty and sandy 40.12
							0.24	MUDSTONE : grey to dark grey, calcareous. 40.36
	42.54	3.00			41		2.18	SANDSTONE light grey to grey with thin carbonaceous flakes, varying in amount from top to bottom. from traces to small amounts. Basal 10 cms is friable ss calcareous fine to medium grain. VERY CALCAREOUS – MICRITE IN PLACES 42.54
42.54	45.26	2.72			42 43		0.72	SANDSTONE, as above LT. grey, very fine grain, very silty, very calcareous, mostly hard, some friable zones, thin carby Laminae which are some what convoluted but show sough bed forms, probably not bioturbated, very small shell frag getting more carby and shelly towards base, pyrite, scattered, coal, coarse 43.91
					43.6		0.26	SANDSTONE: Gray, dark grey. Fine to very fine grain. Silty, poorly sorted, sub rounded subangular, carbonaceous; pyritic, massive at top, planer carby laminae & 2mm 45.57
					44		1.69	CARBSHALE : Dark brown, moderate fissility some Slickensides, abundant, COALY plant material in zones, very pyritic or Marcasitic 45.26
45.26	47.29	2.03	1.75		45 46		.22	CARBSHALE : Dark grey, hard, compact, massive slickenside, few grains of Pyrite 45.48
							.25	COAL : Dull brownish black, dirty with very thin shally lammee, getting dirty towards base, resin, Pyritic, Slickenside UAL-2-A1 GSP 45.73
							.25	CARBSHALE grey to dark grey. hard compact. coaly lenses, clayey. slickenside, massive, slightly marcasite 45.98
							.9	CARBSANDSTONE: grey to dark grey, fine to medium, coaly lenses, clayey, silty, slickensided
							.35	CARBCLAYSTONE Medium grey to dark grey, pyritic, slickenside, coaly material upper part more shaley 46.36
					47		.65	MUDSTONE : light grey to grey, hard, compact, silty, sandy, more clayey and slightly carb towards base and coaly material.
							.11	LOSS
							.17	CLAYSTONE AS BELOW
47.29	47.84	0.72					.55	CLAYSTONE : grey to dark grey, hard, compact, slightly fisile, sticky pyritic lenses .03 m carbonaceous traces. Slickenside. 47.84
47.84	48.64	0.62			48		.62	CLAYSTONE as above, very pyritic 48.46
								MUDSTONE AS below recovered next 48.54
							.08	MUDSTONE Light grey, hard, compact, highly pyritic 48.75
48.54	49.91	1.45			49		.21	BIOMICRITE, Greenish gray, very fine grained limestone supporting shell fragments up to 7mm size. Highly fossiliferous at top becoming less fossiliferous and silty near base. Some sparry fillings. Pyritic, slightly glauconitic or chloritic. Very hard and dense. Mostly bivalves, a few forams & high spired gastropods. 49.69
							0.94	CLAYSTONE : light grey to grey, sandy + silty pyritic 49.91
					50			MUDSTONE, Grey, contains disseminated carbonaceous material few globules of pyritic marcasite. few shell fragments and impressions Highly fossiliferous in the lower 5 cms. 50.60
					2			

DRILL-HOLE NO UAL-2

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								50.60
								FOSSIL HASH (MARLSTONE?) SLTY SDY MICRITIC MATRIX PYR MARCASITE LIGHT GREEN GRAY ABUNDANT GLAUCONITE PELLETS 50.93
							0.33	MUDSTONE GRAY SHELL FRAGS PYR MARCASITE 51.54
					51		0.61	MUDSTONE: Gray, highly foss. contain shell fragments bivalves gastropode. Globules and patches of very fine grain pyrite marcasite. A few places marcasite has partly replaced shell fragments contain few green grains. 51.75
51.54							0.21	
					52		0.31	MICRITIC LIMESTONE = gray green, sparsely fossiliferous, very hard, dense and heavy. Glauconite grains & pellets 52.06
							.45	MUDSTONE/CLAYSTONE: light grey to grey. silty. fossiliferous, calcareous sandy towards bottom 52.51
							.48	SILTSTONE: light grey, hard, compact, sandy calcareous, fossiliferous glauconite, more muddy/sandy towards bottom. 52.99
					53		1.55	CLAYSTONE: grey, hard, compact, rare fossil at place. more sandy towards bottom 54.54
	54.54	3.13			54			SANDSTONE: AS BELOW from previous run. 54.67
54.54							.13	
					55		.86	SANDSTONE: Grey to light grey, hard, compact, slightly silty massive, black grains. pyritic. fine to medium grain, calcareous. few carbonaceous specks at bottom. 55.53
					56		1.64	SANDSTONE + CLAYSTONE interbedded Sandstone dark to light grey. fine to medium grain. cross bedded, clayston light brown. claystone & Sandstone interlaminated 57.17
					57			CORE LOSS + probably SANDSTONE + CLAYSTONE As above 57.54
	57.54	3.0					0.37	CORE LOSS 57.61
57.54							0.07	
					58		1.41	SILTSTONE: grey to dark grey. fine grained sand clayey. clayey pockets. pyritic, more sandy at top massive, fossiliferous, slightly carbonaceous specks, highly fossiliferous at base (gastropode) 59.02
	59.33				59		.31	CLASTONE: Dark grey, hard, compact, massive, pyritic. fossil.
							1.23	SILTSTONE: Grey to dark grey, hard, compact, sandy towards bottom, few clayey lenses, comp. slickenside rooted. 60.56
					60			
					1			
					2			

DRILL-HOLE NO UAL-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							1.23	SILTSTONE : As above
					61		.81	SANDSTONE : grey to dark grey, hard, compact, massive muddy, fossiliferous, few clay lenses, fine to medium grain. 61.37
	62.14	1.58					.77	SANDY SILTSTONE : light grey to dark grey, hard compact clayey lenses, plant fossil impression. fine grain Sandstone 62.14
62.14	62.86	.72			62		.72	SILTSTONE : grey, hard, compact, pyritic, muddy slight sandy streak or lenses, clayey lenses, massive few carb specks. 62.86
62.86	63.65	079			63		.39	SILTSTONE : Grey, fine to very fine grain, muddy, contain shell fragments, few globules of pyrite/marcasite, few nodules lenses of buff colour, comparatively harder material, siltstone becomes sandy in the lower portion. 63.25
							.40	
63.65					64		1.27	SANDSTONE : Muddy, grey, fine to medium grain, contain shell fragments, few globules of pyrite marcasite. few nodules lenses of buff colour finer and harder material 63.65
	65.42	1.27						SANDSTONE : Dark grey, medium to fine grained, very fine grain at bottom, slightly fossiliferous, highly glauconitic quartz grain are sub angular to sub rounded, slightly carb sand stone is very loose, massive. 65.42
					65		0.50	CORE LOSS
65.42							0.50	SANDSTONE : Dark grey, fine to medium grain, carbonaceous pyritic, resinous slightly carb shale, slightly fossiliferous massive. 65.92
	66.65	1.22			66		0.51	SHALE : Dark grey, slightly sandy, few coal specks marcasitic, pyrite, massive, slickenside, hard, compact resinous SLIGHTLY CARB 66.43
							0.14	
							0.08	
66.65							0.36	SANDSTONE : Grey to dark grey, fine to medium grain carb, marcasite, clayey 66.57
					67			LOSS 66.65
							0.73	SANDSTONE : Grey to dark grey, fine grain sandstone muddy, pyritic interlaminated with silty and muddy bed, grain sub rounded [illegible] poorly sorted. 67.01
		3.04			68		1.20	SILTSTONE : Grey to dark grey, hard, compact, massive, marcasite, pyrite, fossil fragments, clay or sandy lenses 67.84
								MUDSTONE : Dark grey, hard, compact, massive. fossil fragments, clay or sandy lenses. 68.94
	69.65				69		0.71	SANDSTONE : Dark grey to grey, fine to medium grain. fossiliferous (Brachiopods) silty muddy, clayey lenses Glauconitic
69.65								SANDSTON AS BELOW
					70			
					1			
					2			

DRILL-HOLE NO UAL-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					71		1.67	SANDSTONE : Dark grey to greenish grey. fine to medium grain, grain are subangular to subrounded, highly fossiliferous (fossil frag ments (~~brachiopode~~ silty clayey highly glauconitic. few silty nodules of about .05 mm more clayey at bottom. slightly hard and compact, massive calcareous. 71-32
69.65	71-71	1.07					0.39	Probably soft muddy sandstone. 71-71
71-71	72-60	0.39			72		0.89	MUDDY SANDSTONE : grey to dark grey, hard, compact very fine to fine grained, glauconitic rare carb traces. pyritic fossiliferous 72.60
72.60	74-11	1.51			73		1.51	SANDY SILTSTONE : light grey to grey, hard, compact highly fossiliferous, gastropode. fine grain sandstone pyritic, glauconitic, muddy, marcasite 74-11
					74			.02 Loss. 74.13
74.11	74.99	.88					.86	SILTSTONE : light grey to grey, hard, compact, clayey : pyritic. fossiliferous, slightly cross bedded. muddy towards base, glauconitic, sandy lenses 74.99
74.99	75.65	0.65			75		0.15	SANSTONE : muddy. dark grey. contain shell fragments. few nodules of pyrite marcasite, slightly calcareous. 75.14.
							0.50	SILTSTONE : muddy dark grey. contain few shell fragments. nodules of pyrite/marcasite. slightly calcareous. dissiminated carbonaceous matter 75.64
75.65	78.27	2.45			76		0.01 loss	75.65
							0.66	SILTSTONE: muddy. dark grey few shell fragments, slightly calcareous Lower part contain few glauconitic grains. few pyritic/marcasite nodules 78.31
							0.48	FOSSIL HASH shell fragments in calcareous and muddy matrix contain glauconitic grain and nodules of pyrite/marcasite. light grey with greenish tinge 76.79
					77		0.75	SANDSTONE : muddy, dark grey. fine to medium grain, slightly compact, contain rarely pyritic. marcasite nodules and glauconite grain, contain at places lenses of clear quartz grain. 77.54
							0.56	SANDSTONE : Gray, soft. friable. fine grained, almost equigranular subangular to subrounded grain, clayey. 78.10
					78		0.17	Probably S.S 78.27
78.27	79.71	1.07					0.18	
					79		0.89	SANDSTONE : Calcareous matrix. fine grained, light grey coloured few pyrite/marcasite nodules, hard. few streak of carbon decays material, rare globules of yellowish orange resin 78.45
							0.37	SANDSTONE : Light grey to grey. clayey. fine grain, soft, friable grain sub angular to subrounded. 79.34
					80		1.40	PROBABLY SANDSTONE 79.71
								SANDSTONE same as above.
					1			
					2			

DRILL-HOLE NO UAL 2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	79.71							SANDSTONE AS ABOVE 81.11
79.71	81.63	1.40			81		0.52	Probably Sandstone 81.63
81.63	82.76	1.13			82		1.13	SANDSTONE : light grey. fine grained, sub angular to subrounded mostly sub angular grains, almost equigranular, almost all transparent quartz grain soft, friable. At places slightly clayey. 82.76
82.76	84.01	1.25			83		1.25	SANDSTONE Same as above 84.01
84.01	84.65				84		0.64	Core NIL Probably Sandstone. 84.65
84.65	85.21	.56			85		.47	SANDSTONE : Grey to dark grey in colour, carbonaceous at places, medium to fine grained, sub angular and unsorted grain, soft & loose, carbonaceous. 85.12
							0.09	LOSS SANDSTONE 85.21
85.21	86.31	0.20					0.20	same as above 85.41
					86		0.90	Sandstone as above. 86.31
86.31	86.66	0.35					0.35	Sandstone : grey to dark grey. fine to medium grain, soft, loose angular to subrounded. highly carb and coaly parting and layers increase down ward, clay percentage also increase, a thin band of highly carby clay stone / coal ? probably contd next sum. Core broken 86.66
86.66	87.64	0.98			87		0.10	COAL / Carb Claystn. Dark grey to black, highly carby / coaly bands / coal ?
							0.88	CLAYSTONE : Dark grey, grey, carby & coaly parting, slightly sandy but the sand percentage increases down ward, gypsum and plant / impressions, pyrite 87.64
87.64	88.65	1.01			88		1.01	Sandstone : grey, dark grey, fine to medium. Sub angular to subrounded, poorly sorted loose and soft, micaceous at place clayey, carby layers & patches. 88.65
88.65	89.20	0.52			89		0.52	Sandstone : grey, colour ; fine to medium, sub angular to subrounded, poorly sorted, soft. loose, micaceous thin bedded constant 90% Silica 1/1 to 2 / black mefic mineral. 89.17
							0.03	LOSS SANDSTONE AS ABOVE 89.20
89.20	89.94	0.74					0.74	sandstone grey in colour same as chart. 89.94
					90			

2

DRILL-HOLE NO UAL2

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0	90.66	0.72					0.72	Sandstone: Grey, light grey in colour. Medium to fine grain, medium bedded sub angular to sub rounded grain unsorted in micaceous and carbonaceous at place. SA loose 90.66
90.66	91.40	0.70			91		0.70	Sandstone As above. 91.36
							.04	Loss Sandstone 91.40
91.40	92.17	.72			92		0.72	Sand stone: Grey colour, med grained, sub angular to sub rounded, same as above. 92.12
							0.05	SS as above Core Loss. 92.17
92.17	92.92	.55					0.55	Sandstone as above carbonaceous at places SS/ Silica 92.72
							0.20	Core Loss as above 92.92
92.92	93.55	6.3			93		.63	Sandstone: Grey. Lt grey fine to Medium grain, sub angular to sub rounded, poorly sorted, coaly layers & patches SAT & loose rest of the properties are same as above.
							.10	Sandstone as above Core Loss 93.65
93.65	96.65	0.07			94 95		2.93	Loose Sand Core loss 96.58
							0.07	Sandstone: light grey, medium to coarse grained very loose friable, soft slightly carb, mostly quartz grain, sub angular to sub rounded, poorly sorted 96.65
96.65	97.66	1.01			96 97		1.01	SANDSTONE: light grey to grey fine to medium grain and same as above. carb traces 97.66
							.03	Core Loss 97.69
97.66	98.63	0.94			98		.94	SANDSTONE: light to dark grey. fine to medium grained Hard, compact, [illegible], cross bedded, slightly marcasite / pyrite 98.63
98.63	99.65	0.80			99		.80	SANDSTONE: light to medium grey. fine to medium grain few grain are course, grains are sub angular to sub rounded, mostly quartz grain. Sandstone with clay layers at bottom 99.43
							0.22	Core loss in Sandstone probably at the bottom of the run SS is friable and very loose.
99.65	101.21	1.56	1.0		100		0.56	Sandstone, core loss
					101		1.0	Sandstone: light to medium grey, medium to coarse grain, grains are sub angular to sub rounded poorly sorted, slightly clayey and carb.
					2			

DRILL-HOLE NO UAL 2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	101.21				101			Sandstone as above.
101.21	102.11	0.90					0.29	SANDSTONE : light to dark grey, medium to coarse grained grains are sub angular to subrounded, hard, compact, massive carbonaceous bottom is more carb. 101.50
							0.35	
							0.20	CARBONACEOUS SHALE : Dark to brownish black, hard compact, layered or laminated, pyritic, slightly harder than coal 101.65
102.11	102.68	.57			102		0.26	
							.57	COAL : Dark black to dirty black and brownish black laminated, pyritic called as dirty coal 101.85
102.68	103.68	1.0			103		1.0"	CARBONACEOUS SHALE : Dark black to brownish black, hard, compact, massive, resinous, pyritic coaly specks, plant fossils. 102.11
103.68	104.68	1.0			104		1.0	Underclay : light grey to dark grey, silty and muddy carbonaceous traces, Highly rooted, coaly flacks, Pyritic; upperpart more carby very fine sandy lenses 102.68
104.68	105.65	0.97			105		0.97	Sandstone : light to greenish grey, hard, compact. plants impression, Glauconitic, rare carb traces Pyritic. very fine grain, cross bedded. 103.68
105.65	106.65	9.5			106		0.95	Sandstone : light grey to grey. Medium to fine grain subangular to angular cross bedded. glauconitic, carbonaceous at places. soft. unbedded. 104.68
							0.05	
106.65	107.65	0.30			7		0.30	Sandstone as above. 105.65
							0.70	SANDSTONE : Grey. dark grey. fine to medium grain, sub-rounded, poorly sorted, soft, loose same as above 106.60
107.65	108.62	0.90			108		0.90	Core loss Same as above. 106.65
							0.10	Sandstone, grey. light grey, fine to coarse grained. sub angular, poorly sorted, soft & loose, no cementation carby, some black mk, 95% Silica. 106.95
108.62	109.64	0.92			109		0.92	CORE LOSS S:S 107.65
								Sandstone as above 108.55
								LOSS AS ABOVE
								Core Loss as above 108.82
								S.S As above 109.64
					110			Next page
					1			
					2			

DRILL-HOLE NO UAL2

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	110.14				110.14		.50	SANDSTONE: Grey to dark grey. Medium grained. Slightly carb.
110.14	110.89	.75			110.89		.75	SANDSTONE as above. 3 cm up art part clayey, some black mineral, may be carbonaceous
110.89	112.15	1.26			111		.045	SANDSTONE; light grey to grey. off white, soft, loose fine to medium grain, carbonaceous specks. at place hard at top. grain are subrounded to subangular.
					111.34		.81	SANDSTONE AS above .CORE LOSS
112.15	113.48	0.80			112 112.15		.53	Sandstone Core loss as above.
					112.68		0.80	SANDSTONE: light grey, medium to coarse grain, sub angular to subrounded, mostly the grain are of quartz soft friable and massive.
113.48	114.71	1.23			113 113.48		1.23	SANDSTONE: light grey to grey, medium to coarse grain, subangular to subrounded, carbonaceous layering, Cross Bedded, marcasitic, poorly sorted. plant fossil
114.71	116.16	1.45			114 114.71		1.45	SANDSTONE: light grey to medium grey, medium to v. coarse grained, subangular to subrounded, poorly sorted slightly carboneceous.
116.16	117.65	1.49			115 116.16		1.49	SANDSTONE: light to dark grey. fine grain; well sorted carbonaceous, coal streaks or layering. slightly hard and compact, slightly clayey, cross bedded interlayered with clay.
117.65	120.65	3.0			116 117 117.65			Sandstone: same as above
					118 119 120 120.65			
					1 2			

DRILL-HOLE NO UAL 2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	120.65				120.65			as above.
					120.90		0.05	Core Loss
120.65		1.30			121		1.30	Sandstone as above
	122.0				122.0			
122.0					122			Sandstone: As above but no clayey and slightly carb.
							1.63	
	123.65				123			
					123.65			Core loss. Probably at the bottom.
123.65					125.65		0.02	
		1.25			124		1.25	SANDSTONE: light grey to grey. fine grained, slightly carb, rest as same as above.
	125.15				124.90			Core loss loose Sand.
		1			125		0.15	
125.15								SANDSTONE: Sands of light grey to grey colour, soft friable, fine grained, Grains subangular to subrounded equigranular, Almost all transparent quartz grains. Lower few medium grains, Mostly subrounded. Dark band contain clayey and probably carbonaceous material
		1.50			126		1.50	
	126.65				126.65			126.65
126.65					126.77		0.12	Sandstone ~~coarse carbonaceous~~ CORE LOSS 126.77
					126.88		0.04	
	127.15	0.38			127		0.30	SHALE: Dark grey to black, carbonaceous, sandy. hard, compact sand grain mostly transparent quartz, fine to medium, subrounded. very fine to fine grain of pyrite/Marcasite 126.81
127.15					127.15		04	
					127.19		07	
	128.03	.88			127.26		.59	CARBONACEOUS SHALE, crumbly. fragment. maybe coal? 126.85
					127.85		05	
					127.90		09	CARBONACEOUS SHALE: Dark grey to black, laminated contain few thin laminated, contain few thin laminations of muddy Sandy material observed animal burrow at one place. thin lamination (less than 1mm) of carbonaceous material pyritic, marcasite, carbonized plant fragments? 127.15
					127.99		04	
					128			
					129			Carbonaceous shale: Brownish black, hard, compact, Marcasite Coaly flacks., plant root. 127.49
								COAL: Dirty, Brownish black, to black, brittle flacky. pyrite marcasite 127.26
					130			CARBONACEOUS CLAYSTONE. Dark grey to brownish black, hard Compact, pyritic, Marcasite, resin, slight sandy. coaly trace at place. 127.86
					1			COAL: Dirty, brownish black, soft, brittle, clayey band in middle pyritic 127.90
								CARB SHALE, brownish black, clayey, coaly chip, pyrite, resin 128.01
					2			CARB CLAYSTONE: light grey to grey, sticky, compact, pyritic Coaly material 128.03

DRILL-HOLE NO UAL 2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
128.03					128.03			129.03
	128.51	.48			128.51		.48	MUDSTONE: light grey to grey. hard, compact. silty, pyritic marcasite, coaly traces
128.51					128.98		.47	SILTSTONE; light grey to grey, muddy, marcasite, coaly traces
	129.65	1.09			129.39		0.41	MUDSTONE: Grey, Marcasitic, pyrite, coaly streaks or specks compressional slickensides, more coaly material. 129.89
129.65					129.44		.05	CARBONACEOUS SHALE: Dark grey, silty sandy, pyritic, coaly material 129.44
					129.60		.16	COAL: Dark black, pyritic, soft, massive UAL-2-B1 129.60
					130		0.43	Coal Loss. 129.65
								COAL: As above.
								UAL-2-B2

DRILL-HOLE NO UAL 2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	130.79				130.08			COAL, Dark black, layered, Top is crumbly, soft, Marcasite 130.08
					130.22		0.14	CARB. SHALE: light-dark greenish grey, coaly layered, laminated 130.22
					130.79		1.93	SANDSTONE: grey to dark grey, soft, massive, slightly carb fine to medium grained. 130.49
130.79		1.93			131			
	132.72				132		1.93	SANDSTONE: light grey to grey, soft, semi compact, fine to medium grain. 132.72
					132.72			SANDSTONE: grey to dark grey, soft, fine to medium grain, slight clayey at the bottom, and slight carb at base 134.47
132.72					133		1.75	
	134.47	1.75			134			SANDSTONE: light grey, soft, fine to coarse grain slight carb at base. transparent sand grains 135.45
134.47					135		.98	Sandstone as above, Core loss 135.59
	135.59	.90			135.45			
					135.59		.14	SANDSTONE: light grey to grey to grey, soft, fine to medium grain, grains are transparent. Carbonataceal present. 136.57
135.59					136		.98	Sandstone as above loss. 136.74
	136.74	.90			136.57			
					136.74		.17	Sandstone Loss 137.14
136.74					137		.40	
	138.21	1.07		✓	137.14			SANDSTONE: Grey fine to medium grain [illegible] subangular to [illegible] subrounded [illegible] are [illegible] dark, silty, slightly, glauconitic sandstone soft and massive 138.21
					138		1.07	
					138.33		0.12	sandstone as above 138.33
138.21					139		1.67	Sandstone: light grey to greenish grey, soft to hard, fine grain, glauconitic, slightly carb in middle, well sorted silty and clayey. 140.0
	140.0	1.79			140			

140.08
139.44
.64

DRILL-HOLE NO UAL 2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
140.0	140.69	0.69					.69	Sandstone : light grey. inter bedded with clay laminae silty, soft to hard, very fine grained, well sorted moderate. 140.69
140.69	141.79	1.10			141		1.10	Sandstone : light grey to greenish grey, very fine sandstone, silty fossiliferous (gastropode) bottom is more silty, sandstone layered with silt and clay bands massive, hard, compact 141.79
141.79	142.19	0.40			142		.40	Sandstone : grey to dark grey, hard, compact, very fine grain to fine grain silty. Fossil fragments, slightly carb 142.19
142.19	142.71	0.50					.23	carb sandstone : grey to brownish grey. hard, compact, glauconitic. fossil fragment (gastropode 142.42
					142.71		.27	core loss 142.69
142.71	144.27	1.23			143		1.23	Sandstone : light grey, pyritic, hard, compact, glauconitic fine carb layer 142.71 Sandstone : light grey to grey, hard, compact, very fine grain sandstone, cross bedded. 23 upper part, 3 very hard and very slightly calcareous, pyritic, muddy or clayey towards bottom. very slight carbonaceous, black specks of mineral, glauconitic, micaceous. 143.94
					144 144.27		.33	As above 144.27
144.27	145.81	1.54			145		1.54	Silty claystone : grey to dark grey, hard. compact laminated, cross bedding, slightly glauconitic slight carb towards bottom. 145.81
145.81	147.71	1.90			146 147		1.90	Siltstone : grey to dark grey, hard. compact, slightly calcareous, pyritic, slightly glauconitic fossiliferous, slightly muddy carbonaceous fragments 147.71
147.71	148.61	.80			148			SILTSTONE : grey to dark grey, hard, compact. fossiliferous slightly pyritic, slightly silty, very slight carb 148.53 As above. 148.61
148.61					149 150			SILTSTONE : as above, calcareous.

DRILL-HOLE NO UAL 2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	150.64						0.12	SILTSTONE as above. 150.52
								Core Loss as above 150.62
150.64	152.14	1.50			151		1.50	Mudstone, Grey to Greenish grey, silty, Fossiliferous. 152.14
152.14	152.60	.22			152		0.24	Core Loss Mudstone as above 152.38
							0.22	MUDSTONE: light grey to grey, soft, hard, glauconitic, fossil shell fragment, coaly specks, marcasite, slightly calcareous. 152.49
							0.11	GLAUCONITE SANDSTONE: light grey to greenish grey, hard compact, NO Quartz subrounded to subangular grains. Shell fragments, calcareous. matrix supported 152.60
152.60	152.76	0.12					0.12	AS above 152.64
152.76	153.70	0.94			153		0.50	GLAUCONITE SANDSTONE: calcareous (Probably matrix is marly light greenish grey, contain abundant shell fragment, hard Glauconite grain rounded to subrounded, medium size, matrix supported, whole bivalves.
							0.44	Core was short because the bit was blocked NO Otz. 152.76
153.70	154.18	0.48			154		0.48	MUDSTONE: Greenish grey. Glauconite, pellets (some broken) in matrix of slightly calcareous, green clay, whole bivalves and shell fragments 153.26
154.18	155.33	1.15			154.53		0.35	AS above MUDSTONE 153.70
					154.83		0.30	AS above MUDSTONE non calcareous, highly glauconite 154.18
					155		0.45	MUDSTONE: Gray. contain abundant shell fragments including high spired gastropods, scattered glauconitic pellets, pyrite veinlets 154.53
					155.28		0.07	MUDSTONE: Sandy, Greenish grey. Shell fragments abundant (Pelecypods, high spired gastropods scattered glauconite pellets. 154.83
155.33	155.70	0.37			155.33		0.35	SANDSTONE: light grey shell fragments abundants, hard slightly muddy, May be termed as fossil hash, Sand grain fine to coarse, subangular to subrounded, fine grain of pyrite / marcasite at plate. 155.28
155.70	156.70	1.0			156		1.0	SANDSTONE: muddy, dark grey. Lenses of ill sorted lighter coloured sand grains. Shell fragments 155.35
					156.70		1.15	SILTSTONE: ~~Grade top Sandy and glauconitic~~ ? Siltstone grey, carbonaceous material disseminated throughout the rock, contain few lenses of ill sorted, fine to coarse muddy, quartz and glauconitic grains and fine shell fragment, Siltstone contain few patches of very fine grain of pyrite / marcasite 155.70
156.70	159.72	1.72			157		1.74	MUDSTONE. Dark grey. silty, pyritee, marcasite. lenses of V.F to F sand, Carb. material disseminated, coaly and crumbly 157.10 - 157.28 resin 157.05
					158			SILTSTONE: Grey to dark grey, lenses thin bedded of very fine grained light grey sand, carbonaceous material, disseminated, pyritic fossil fragments very rare. 159.38
					159			Core Loss as above 159.72
					159.39		0.33	CARBSH: very Sandy, pyritic, fissile, thin coal laminae decreasing down and grade underlying unit 159.99
159.72					160		0.27	

DRILL-HOLE NO UAL-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					160.05		2.67	CARB. SANDSTONE: very muddy, pyritic, coaly partings, fine to medium grained, subrounded to angular quartz grains. 160.05
								Core Loss probably sandstone 162.72
					161			Core Loss probably sandstone 163.06
	162.72				162			SANDSTONE: light grey to grey, soft, friable, muddy matrix, subangular to subrounded grains, glauconitic slightly calcareous at bottom. 163.67
162.72	163.67	0.61			163		0.34	Core Loss SS as below. 164.69
							0.61	SANDSTONE: White, med grained, very clean. Well sorted, Subrounded to subangular, quartz grains non, calcareous, Silica Sand.
163.67	164.94	0.25			164		1.02	SANDSTONE: very muddy, almost, mudstone. Fine to med grained, subrounded to rounded quartz grain in a mud matrix, clay lenses, no fossils Scattered, Dark grains, possibly glauconite. 164.94
							0.07	
							0.18	
					165		0.22	
164.94	165.72	0.27					0.05	
							0.52	SILTSTONE: Light grey to grey, hard, compact, Slightly clayey slight sandy, few blackish green grain, may be glauconitic. 165.16
					166		0.48	SANDSTONE: light grey to grey, soft friable, fine to medium grain, subangular to subrounded grain. 165.21
165.72	168.05	0.48					0.85	Loss SS as above 165.72
					167			SANDSTONE: Light grey to greenish grey, hard, compact subangular to angular, glauconitic micaceous. pyritic, fine grained. 0.12 fossil fragm in base 166.20
167.05	168.74						0.65	Loss Probably S.S 167.05
					168		0.55	MUDSTONE: Silty, grey, few shell fragments, few patches of fine grain of pyrite/marcasite. 167.70
							0.49	SANDSTONE: muddy, grey, glauconitic, pyritic, few shell fragments 168.25
							0.14	
					169		0.21	MUDSTONE: Silty, grey, few patches of very fine to fine grains of pyrite. 168.74
							1.32	SANDSTONE: Light grey, fine to medium grain, subrounded to subangular, mostly transparent quartz grain, glauconitic, shell fragments. few streak of carbonaceous material, SS slightly muddy 169.07
					170			SILTSTONE: Grey, muddy. few patches of very fine to fine grains of pyrite/marcasite, few shell fragments muddy carbonaceous material disseminated throughout the rock, few glauconite grain, thin convoluted bedding

DRILL-HOLE NO UAL-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION	
	170.41							SILTSTONE	170.39
							0.02	COAL: Boney Brownish, black, pyritic, marcasitic	170.41
170.41	170.74	0.33					0.33	As above COAL BONEY	170.74
170.74	171.20	0.46					0.06	Core Loss .06	170.80
					171		0.20	COAL: brownish black, Streak brown, pyritic from 170.84 to 170.92 friable. from 170.95 to 171 boney coal with more than 60% ash.	171.00
171.20	171.94	0.74					0.74	UNDERCLAY: Light grey. impressions of plant fragments slickensides, At places carbonaceous material, replaced by very fine grains of pyrite / marcasite, rooted	171.20
171.94					172		0.20	CLAYSTONE: Light grey, with abundant medium size rounded grains of dark colour may be glauconite or phosphate marcasitic, pyritic?	171.94
	173.07	1.13					0.61		
					173		0.32	CLAYSTONE: as above: light grey, hard, compact, massive contain scattered, brown black, oolids up to 0.3 mm possibly phosphate, non calcareous, pyritic	172.14
173.07							0.15	CLAYSTONE: light grey, softer than above, conchoidal fracture disiminated carbonized & pyritic roots lets.	172.75
	174.74	1.67			174		1.42	SILTYSHALE: light to dark grey, brown, medium hard and compact, grades from slightly fissile interlaminated grey and slightly carbonaceous brown, siltstone at top to moderately, carbonaceous shale and non fissile siltstone at base. pyritic and carbonized plant fragments throughout	173.07
							0.10	Core Loss probably siltstone	173.22
							0.04	Siltstone: med-dk brn, soft & compact, sl carbonaceous, disseminated Pyrite & pyritized plant frags, becoming sandy at base	174.74
							0.08	Sandstone: Grey. very fine grained, gray. muddy, poorly sorted subrounded to subangular, friable, Similar to interbedded sandstone as above & below. (incl 0.08 Loss. 174.74-174.82)	174.89
174.74					175		0.22		
							2.63	SILTSTONE: as above med brn to dark brown, soft, slightly carbonaceous interbedded with very fine gr Sandstone	175.11
	177.74	2.92			176				
								SANDSTONE: fine grained very light grey, very muddy very poorly sorted, rounded, subangular, possibly a few glauconitic grains, interlaminated, with grey dark grey Siltstone, convoluted bedding, some large lenses of ss slight fossil. by this from being called mudstone	177.74
177.74					178		0.41	SANDSTONE: Core Loss in SS	178.15
		2.59			179		2.59	SANDSTONE: as above coarsens and becomes more sandy down, Bottom half has scattered, coal spars, possible burrow.	180.00
					180				

DRILL-HOLE NO UAL-2

CORE RECOVERY

FROM	TO	CORE	CORE %	WATER LOSS
	180.74			
180.74	182.44	.08		
182.44	182.69	0.25		
182.69	183.74	1.05		
183.74	184.82	0.62		
184.82	185.79	0.58		
185.79	186.74	0.70		
186.74	187.84	0.92		
187.84	188.79	0.90		
188.79	189.74	0.75		
189.74				

LITHOLOGIC DESCRIPTION

THICKNESS	LITHOLOGIC DESCRIPTION	DEPTH
	Sandstone as above	180.74
.02	MUDSTONE: grey to dirty black hard, compact, coaly spars	180.76
.01	CARB SHALE: Brownish black, pyritic, coaly sandy	180.77
1.62	Core loss possibly Carb Sh/coal ?	182.39
.05	MUDSTONE: silty, greyish black, hard, compact	182.44
0.25	(0.25) MUDSTONE: Greyish black. Dissiminated very fine to fine grain of pyrite, marcasite. Few sandy lenses having subrounded to subangular, medium size, transparent quartz grain, carbonaceous. (core dropped recovered in the next run.)	182.69
0.80	MUDSTONE: Dark grey, slightly silty. contain few lenses of fine sand and few patches of very fine to fine of pyrite/marcasite, probably has replaced plant fragments; carby burrows. fine sand band in the lower portion.	183.49
0.25	SANDSTONE: light grey to grey, muddy, subangular, transparent quartz grains, few dark grains, few patches of fine to very fine grains of pyrite, thin bands of muddy material.	183.74
0.62	SANDSTONE light grey, with thin laminas of darker muddy material, Sandstone dominantly consist of fine, subangular transparent quartz grains. Planar bedding	184.36
0.46	Core loss probably Sandstone, same as above.	184.82
0.58	SANDSTONE same as above.	185.40
0.39	Core loss probably sandstone as above.	185.79
0.15	SANDSTONE: muddy, light to dark grey, mostly fine, subangular transparent quartz grains.	185.84
0.25	Core loss probably Sandstone same as above	186.19
0.55	SANDSTONE and SANDY SHALE: interlaminated, Sandstone very fine to fine, subangular, transparent, quartz grains, shale fissile, sandy carbonaceous ~~70% shale~~ % gets shalier and very carbonaceous at base, Grades with underlying unit. 70% SH 30% SS	186.74
0.92	SHALE: Sandy. dark grey. Few patches of very fine to fine grain of pyrite/marcasite, slightly carbonaceous	186.79
0.13	SANDSTONE: Gray, dominantly fine, subangular, transparent quartz grains, loose, friable, A few thin carby mud streak scattered ferromags.	187.71
0.90	Core loss probably SANDSTONE same as above	187.84
0.05	SANDSTONE: light grey, loose, friable, slightly muddy in the upper portion, Mostly fine to medium, transparent, subangular to subrounded quartz grain.	188.74
0.75	Core loss probably sandstone same as above.	188.79
0.20	Sandstone: Grey to light grey at places, muddy, mostly fine to medium transparent, subangular to subrounded quartz grains	189.54
	Core loss Probably Sandstone as above	189.74

DRILL-HOLE NO UAL-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION	
	190.74	.44					.44	SANDSTONE: light grey, off white, blackish grey, soft, friable fine to medium grain, subangular to subrounded grains A few thin carby mud streaks, more at base.	190.18
							.56	Loss Probably Sandstone (0.56)	190.74
190.74	191.74	0.0			191		0.75	Core NIL (Loss) Probably S.S as above.	191.74
191.74	192.74	1.0			192		1.0	SANDSTONE: Light to medium grey, soft, friable, fine to medium grained, clean, well sorted subangular to subrounded, massive, coal specs at top, slightly carby at top and middle with a few coal streaks.	192.74
192.74	194.20	0.46			193		0.46	MUDSTONE: medium grey to grey, hard, compact with thin sandy layer, fine to medium grain sandstone subrounded to subangular grain sandstone thickning towards bottom.	193.20
					194		1.0	Loss Probably: Mudstone & Sandstone as above.	194.20
							0.04	Mudstone & Sandstone interlayered as above.	194.24
194.20	194.84	0.04					0.60	Loss As above.	194.84
194.84	195.74	0.62			195		0.28	SANDSTONE: ~~friable as below~~ LOSS	195.12
							0.35	SANDSTONE: Grey, muddy, friable, few thin bands mudstone fine grained	195.47
							0.17	SANDSTONE: dark grey, hard, with lenses of light greenish silty claystone, very muddy, Matrix Supported, fine grained	195.64
							0.10	CLAYSTONE: silty, light green, hard, compact	195.74
195.74	197.34	1.53			196		1.04	CLAYSTONE: silty, light grayish green, hard, compact. Few lenses of sand Grades into mudstone below, a few oolites of light brownish material, possibly, phosphate or chamosite	196.78
					197		0.49	MUDSTONE: Grey with thin bands of sandstone, Grades into fine sandstone below.	197.27
							0.07	Core Loss probably Sandstone	197.34
197.34	198.74	1.37			198		1.37	SANDSTONE: very fine grained, moderately hard & compact Grades into coarser and friable, S.S in the lower half, Gray silty scattered dark minerals becoming more abundant lower half pyritized & coalified plant material	198.71
							0.03	Core Loss, Probably Sandstone, friable	198.74
198.74					199		0.75	SANDSTONE: slightly muddy, grey, fine MED grained, moderately compact, Grades into coarser and friable, muddy sandstone at 199 M.	199.49
					200				

DRILL-HOLE NO UAL-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	200.24						0.75	Core loss, Probably Sandstone friable. 200.24
200.24	207.74	0.20			201		0.20	SANDSTONE: fine to medium grained, grey, soft. friable subangular to subrounded 200.44
							1.30	Core loss probably Sandstone friable as above. 201.74
201.74	203.24	0.33			202		0.23	SANDSTONE: whitish grey, very calcareous, hard, compact Glauconitic, other dark minerals, fine to medium grad subrounded, slightly muddy. 201.97
							0.10	SANDSTONE: Gray, friable, very fine to fine grained poorly sorted, subrounded, muddy, a few dark grains 202.07
					203		1.17	CORE loss Probably Sandstone friable as above 203.24
203.24	204.74	1.31			204		1.31	SANDSTONE: friable, grey, contain thick (4cm) band at 203.27 and other 2cm thick band at 203.90 of hard whitish grey calcareous rock same as at 201.74 otherwise fine to medium grained subrounded to sub angular, slightly muddy and carby in place, friable. 204.55
							0.19	Core loss Probably SANDSTONE: 204.74
204.55	205.69	0.78			205		0.78	SANDSTONE: Grey, friable, medium to fine grained, slightly muddy, coarser in middle, subrounded to sub angular 205.52
							0.17	Core Loss Probably SANDSTONE: friable, same as above. 205.69
							0.08	Core loss in SS 205.77
205.69	206.76	0.99			206		0.99	SANDSTONE: As above 206.76
								Core loss in SS 207.08
								SANDSTONE: As above. 207.61
206.76	207.61	0.53			207		0.32	LOSS 207.96
							0.53	SANDSTONE: As above. 208.51
207.61	208.69	0.73			208		0.35	SILTSTONE: Dark grey, carbonaceous, thin. very fine grained sandstone lamella Throughout, very Sandy at top, pyritic 208.69
							0.55	
							0.18	
							0.07	
208.69	209.56	0.51			209		0.22	SILTSTONE: as above becomes more sandy down and grades into underlying unit, Sand is fine grain 208.76
							0.36	SANDSTONE: With Carby SILTSTONE streaks as above, sand is fine to med gr, subangular to subrounded poorly sorted & contains dark minerals including detrital glauconite, Siltstone in places is clayey w/ 208.98
							0.22	
209.56	210.14	0.37			210		0.21	Core Loss in SS 209.34
							0.17	SANDSTONE As above. 209.56
							.20	Core loss in SS below 209.77
								SANDSTONE: Grey, dark grey, Fine to medium grain, subrounded slightly muddy, a few dark minerals 209.94
								Mudstone, see next page

DRILL-HOLE NO VAL-2

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS
210.14	210.74	0.37					0.27
							0.10
							0.23
210.74	212.14	1.40			211		0.41
							0.50
					212		0.49
212.14	213.94	1.80					0.10
					213		1.10
213.94	216.44	2.50			214		0.43
							0.15
					215		1.34
					216		0.58
216.44	217.59	1.0			217		1.0
217.59	218.87	1.16			218		1.16
							0.12
218.87	219.64	0.73			219		0.77
					219.64		

LITHOLOGIC DESCRIPTION

MUDSTONE, Grey, dark grey, slightly carbonaceous, pyritic rasinous with thin laminae and burrows (?) of fine grain sandstone which contain glauconite or chalorite or (Chamosite ?) A few shell fragments. 210.14

MUDSTONE: with thin laminae of fine grained sandstone, grey to dark grey. Few patches of very fine grained pyrite/marcasite few shell fragments, contain medium size quartz and glauconite grains. in the lower portion 210.41

SANDSTONE: Green, muddy, consists dominantly of subrounded to rounded. Fine to medium quartz and green glauconite grains contain abundant shell fragments, calcareous, probably cementing material is calcareous. Glauconitic, green sand. 210.51

Core loss 210.74

MUDSTONE: Grey. contains lenses of fine to medium sand (quartz and glauconite patches of very fine to fine grains of pyrite marcasite at places probably have replaced by plant matter few shell fragments. 211.15

Fossil Hash. Full of shell fragments quartz grains and glauconite grains in clayey and calcareous matrix; few well preserved gastropode, One patch of very fine grain of pyrite marcasite in the lower portion glauconite grain medium to fine subrounded to rounded, Quartz grain. Fine to med, subangular to subrounded. 211.65

SANDSTONE: muddy, glauconitic, fine to coarse grain few shell fragments, Pyritic. Friable becomes compact and finer in the lower portion very calcareous 212.14

SILTSTONE: Dark grey. muddy, glauconitee, few shell fragments few patches of fine grains of pyrite, marcasite, very sandy 212.24

SANDSTONE: Dark grey. muddy. fine grain, Bands and lenses of mudstone, One burrow, filled with coarser sand (quartz and glauconite grain, few patches of fine grain of pyrite marcasite. At place may be turned as mudstone sandy instead of sandstone muddy, glauconitic scattered, fossil. Frags, slightly calcareous. 213.94

MUDSTONE: Grey. lenses of F. to Med. qtz. sand, glauconite rounded contain carbonized plant fragments, and patches of fine grains Pyrite/marcasite, non calcareous. 214.37

SANDSTONE: light grey, friable, glauconitic, sl. muddy, subrounded to rnd F-Coarse GR 214.52

SANDSTONE: Greenish grey, very fine FINE grained very silty matrix + grains of glauconitic, non calcareous, silty, sl. carby, convoluted laminae moderately friable, Grades into underlying unit 215.86

SANDSTONE: very similar to above. except contain burrow fillings & convoluted laminae of fine grained quartz sand with calcite cement, slightly coarser than above unit, fine very fine grain. 216.44

DRILL-HOLE NO VAL-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION	
								1.0 SANDSTONE: greenish grey, fine, very fine grained planar or cross laminated, laminae of greenish grey, glauconitic silt detrital glauconite grains, similar to overlying units except cleaner, slightly coarser and non, calcareous.	217.44
								0.15 loss in SS	217.59
								1.16 SANDSTONE: as above.	218.75
								0.12 Core loss in SS as above.	218.87
								0.77 Sandstone: Similar to above except very calcareous cement. very hard	219.64

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Surface - lag deposits of Laki LS cobbles & Manchar SS gravel
0	1.5	NON-CORING			1		1.5	Alluvium or colluvium, mostly weathered limestone, some coarse qtz grains. Limestone is fine grained, sparry, oxidized w angular fragments, or ROUNDED V. COARSE-pebble size grains of micrite supporting med-coarse qtz grains Laki? Manchar? 1.5
1.5	3.0				2		1.5	Alluvium as above 3.0
3.0	4.0				3		1.0	Alluvium as above 4.0
4.0	4.5				4		0.5	SS, F-C gr, poorly sorted qtz grains in limonite matrix 4.5
4.5					5			SS, F-C gr. same as above 5.25
	6							Lime stone light brown, sparry, foraminiferal. Laki ?
6	7.5				6			Lime stone cream Coloured, 6.0
7.5	9.0				7			Lime stone, white, chalky, foraminiferal. Laki. 7.5
9.0	10.5				8			Limestone as above 9.0
					9			Limestone as above 10.5
					0			
					1			
					2			

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10.5	1120	NON-CORING			11			Limestone as above, becoming somewhat sparry Laki ✓11.20
1120	1230			1230	12	R R		Sonhari ? Claystone, brick RED 12.30
1230	1380			13.50	13	R R R		Claystone, PINK RED 1380
1380	15.30			15	14 15	R R		Claystone as above 15.30
1530	16.50				16			clay stone Pink red limonitic as above basal 10 cms is claystone red
16.50	18.00				17			clay stone red, ferruginous as basal 30 cms is claystone maroon. 18.00
18.00					18 19			Claystone maroon, slightly calc, Ferruginous. ✓19.50
					20			Cl Sand VF-F grained, red tan, subangular quartz grains with few Fe-Mg. mineral grains
					21			
					22			

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1			
					22			Sand loose, as above
					3			Sand as above
					24			24.00
					25			Sand as above
					26			Sand Same as above
					27			
					28			Sand Same as above
				28.50	29			Maroon + BRN Sand VF - F & m Color well Some black minerals + Silt.
				30	30			Shell Change 21.00 → Abidi + Saleem.
					1			
					2			

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30.0	31.5				31			Sand- Red. brown colour, VF to med. Subrounded to sub angular, with blackmineral silica % more than 80% - 5% clay minerals 5% other
	33.0				2			Sand: Varigated colour, red brown. f grain sub-subangular to subrounded, with clay of grey color - clay % increses downward.
33.0	34.5				3 34			Sand- Red maroon color Med. to fine grained subangular to subrounded, upper part clay stone of grey colour - clay 25% - Sand is ferruginious gypsum also present %
34.5	36.0				5			Sand:- Red brown color - med to fine grained Subangular to rounded unsorted - Brown SS is Calcareous - Gypsum present. 36.00
36.0	37.5				6 37			Sand:- Maroon & yellow brown color - fine grained subrounded grains 85% silica - Gypsum present soft - Silty
	37.5				8			sand: yellowish brown, fine grained. soft - Silty Sub angular gypsum present - Calcareous - Same as above.
37.5	40.5				9 40			Sand yellowish brown, dark brown, reddish Med. to fine grained, Med. hard, calcareous gypsum present; Sub angular to sub rounded
40.5					1 2			

Red/Maroon
ordown ss

DRILL-HOLE NO WAL-3

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Sand: Dark brown, reddish brown, med to fine grained subrounded. silty + clayey. gypsum present
	42.0				42			42.0
42.00								Sand:- Brown yellowish brown reddish, med. to fine grained, subangular grains, 80% Silica, 1% gypsum silty and clayey, loose soft-
	43.50				43			✓ 48.5
								Shift Changed 0700 hrs.
43.50					44			Silt, sandy, yellowish brown, VF ine Sand grained
	45.0				45			45.0
45.0								silt sandy Same as above
	46.50				46			46.5
46.50								silt sandy, Same as above
	48.0				47			✓ 48.0
48.0					48			Clay stone lt yel. brown ~~dark~~ slightly Carb silty
	49.50				49			49.5
49.50								Clay stone yellowish brown
	51.0				50			50.0
								Clay stone grey, non calcareous,
					51			51.0
					2			

brown
grey

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
51.0	52.50				51–52			clay stone, grey, non Calcareous 52.5.
52.50	54.0				53			claystone, grey, non calc 54.0
54.0	55.0				54–55			clay stone same as above. 55
55.0	57.0				56			clay stone light grey. Calcareous 5-26-55: JRS appears to be LS w/ glauc pellets 57
57.0	58.5				57–58			Clay stone Same as abov, contains few fragments of SS light grey, Fine quartz grains apox lower 0.5 M SS. √58.5
58.5	60.0				59			Sandstone light grey, calcareous, Fine to medium grained subrounded quartz grains, Ferro-magnesium mineral grains (black) few. forams rare 60.0
60.0					60–62			

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
61.43	60.0				60			SS Top 30-40 cms same as above.
3.05								Clay stone grey silty
	61.5				61			
61.5								Clay stone grey slightly silty.
64.48	63.0				62			
63.0					63			clay stone grey as above
3.05								
	64.5				64			
64.5								
3.05					65			clay stone grey
67.53	66.5							SS. gre, VF-F grd. subrounded quatz grains Few Fe-Mg grains
66.5					66			
Rod								clay stone grey as above, fragments of ss, F grd, qtz
70.62	67.5				67			
67.5								clay stone grey as above
					68			
5Rod								
73.67	69.0				69			SS, grey, VF-F grd Subrounded, quartzitic Fe-Fe-Mg grains Calc
1.37								
69.0								Claystone as above with SS fragments, SS, grey VF-F grd VF-F grd quartz grains.
	70.5				70			
70.5								
					2			

DRILL-HOLE NO UAL-3

73.67
1.37

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
70.5	72.0				71			clay stone as above, Few fragments of grey coloured F.grd ss, S.H Abid & Sleem R.
72.0	73.50				2, 73			clayst. Dark grey color, silty soft; with calcite xtals. calcareous.
73.50	75.0				4			claystone - Same as above - with broken shell of bivalve fossils ?
75.0	76.50				5, 6			clay stone as above + [illegible]
76.50	78.00				7			claystone Same as above
78.00	79.50				8, 9			Claystone Same as above
79.50	81.00				80			Clay Stone Same as above
					81, 2			

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RECOVERY CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	81.0	NON CORING			81			
81.0								claystone as above -
	82.50				2			
82.50					3			claystone as above
					4			
								claystone as above
					5			
					6			claystone as above
					7			claystone as above water encountered at 88M, stopped drilling at 0330 hrs 4th May 86 Contractors wants Core drilling from 88M at his own responsibility. M. Jaffar 2100 hrs 4th May 86.
88.27	1.49	CORING			8			88 Casing lowered to 88.27M at 0230 hrs on 5 May 86 & drilling started at 0345 hrs. Core recovered 0825 hrs.
	89.49				89			89.49
89.49	1.38				0			
	90.87							90.87
					91			
					2			

5-86

5-5-86
M. Jaffar

1.22
35
90.87

DRILL-HOLE NO UAL-3

Run	CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	THICKNESS	LITHOLOGIC DESCRIPTION
		90.87						90.87
Run = 2.45 m	90.87	2.45 / 93.32	2.00 m			91–93	2.00 m	SANDSTONE.- Muddy; V.F – M. grained, Contains Shell fragments, and few patches of V.F – F. grains of Pyrite/Marcasite. and few glauconite grains. upper half more Muddy.
						93	0.45	Core Loss
								93.32
Run = 2.75 m	93.32	2.75 / 96.07	2.75	100%		94–96	2.75	SILTSTONE. Muddy, grey, contains few Shell fragments. (gastropods. bivalves) few grains of Glauconite, rare patches of disseminated fine to very fine grains of pyrite/marcasite at places Sandy
								96.07
Run = 0.78 m	96.07	96.85	0.78 m	100%		96	0.78	MUDSTONE. Silty. D. Grey, Shell fragment at one place, Dens. Compact.
								96.85
Run = 3.00 m	96.85	3.00 / 99.85	3.00 m	100%		97	0.38	MUDSTONE. Silty and Sandy. becomes slightly Silty at the base, Dark grey. shell fragments numerous. clay blobs yellowish white numerous.
								96.857
						98–99	2.62	CLAYSTONE. Dark grey. silty with light yellowish white blobs. few fossil fragments. few gastropods impressions. plecypods observed.
								99.85
Run = 3.00 ↓ contd	99.85		3.00			100	0.15	MUDSTONE/SANDSTON same as on the next Page.
						1, 2		

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	THICKNESS	LITHOLOGIC DESCRIPTION
	102.85 (3.00m)	(3.00 m)	100%		101, 102	0.43	MUDSTONE/Sand Stone. grey, hard, compact, highly fossiliferous, gastropods recrystalized, Vorm tubes present. Glauconite pallets abundant in the middle part upper 8 cms dark grey, unfossiliferous and L. Grey fossiliferous Mud stone/Sand stone inter layered. 100.43
						2.42	CLAY STONE. Silty, dark grey, with yellowish white Clay blobs, few fossil fragments. (gastropods & Pleacypods?) bottom 2-3 cm with white patches of small fossil fragments. 102.85
102.85	105.92 (3.07)	3.07	100%		103, 104, 105	1.30	ClayStone. dark grey, massive, compressional Slickensides rare, compact, at places calcareous clasts present. 104.15
						0.43	SS, glauconitic, greyish green, calcareous clayey matrix support green glauconite grains and pyrite/marcasite crystals, white shell debris present. 104.58
						0.38	ClayStone. dark grey, silty at places, organic rich, white elongated patches of non calcareous material present. 104.96
						0.50	S.S. silty, greenish grey, glauconitic, clayey calcareous matrix. Shells and shells debris exhibiting white tint evenly distributed. differs from upper glauconitic sand by the absence of pyrite crystals. 105.46
						0.46	Silt Stone fine sandy, dark grey, massive, in the middle part white cal lenticular laminae noticeably present, and are intercepted by grey slumped or refilled silty material. V.F. shell debris at places. 105.92
105.92	108.92	3.00	100%		106, 107, 108	0.30	Sandstone, FGR, v. calcareous, Glauc, Green gy, massive, muddy, grades with above but finer Gr. better sorted
						0.03	Carb. ss, black, F-VFgr, very muddy
						2.67	Siltstone, gray, green, sandy, calcite filled fracture, scattered VFG. shell debris, glauconite, qtz, a few large bivalves, massive to thin, cross beds, a few bleached calcareous, slightly carby lenses. Fines towards middle, then base becomes sandier, with glauconite pellets. 108.92
108.92	112.00 (3.08)	3.08 (2.92)	(95%)		109, 110, 111, 112	0.52	Claystone/Mudstone, dark gray, compact with few light yellowish clay blobs, few fossil fragments. 109.44
						0.90	Mudstone grey, with white patches, very fossiliferous - fragments Pelecypods (?) 110.34
						1.50	Mudstone/Claystone few yellowish white Clay blobs, sparsely fossiliferous, sand sized quartz grains. 111.84
						0.16	Loss in Mudstone (?) 112.00

Logged by: Jafery & Zaidi

108.92 Logged by M. Jaffar M.J Baig

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
112.00					112		0.63	siltstone, gray, hard, compact, fossil fragments, muddy, very calcareous
	2.22	2.22						112.63
							0.38	mudstone, gray, hard, compact, very fossil (coarse) shell calc, glauconite.
					113			113.01
							1.21	siltstone, gray, hard, compact, fossil fragments, pyritic muddy, slightly calcareous.
	114.22				114			114.22
114.22								
	2.31	2.31			115		2.31	Claystone, gray to dark gray, hard, fossil fragments, muddy, pyritic, sandstone lenses and burrows, slightly calcareous, scattered shells
	116.53				116			116.53
116.53	116.96	0.36					0.36	Claystone, muddy as above 116.89
	0.43						0.07	Loss 116.96
116.96					117		0.55	Claystone, muddy as above
								117.51
	2.63	(1.50)			118		0.82	mudstone, light gray to gray, mod hard to hard, fossiliferous, pyritic, ferruginous, calcareous, glauconite, 118.33
							0.13	sandstone and shale interlayered gray to dark gray, fine-med gr. ss carbonaceous subangular to subrounded - mostly ss
	119.59				119		1.13	Lose in loose ss 118.46
								119.59
119.59								Sandstone, gray to blackish gray, v f gr, silty, mod hard to hard, slightly carbonaceous, burrows, fossil fragments, calcareous.
	3.00	(3.00)			120		2.0	121.59
					121			mudstone, light gray to gray, hard, compact, fossil fragments, calcareous, sandy, glauconite.
							0.20	121.79
	122.59			✓	122		0.80	sandstone, light gray to gray, mod hard to hard, f-m gr, sparsely fossil, glauconitic? subangular to subrounded muddy cl matrix, calcareous. 122.59
122.59								
					123		2.23	Sandstone as above, interlayered with shale, fossiliferous in base.
					124			

CONTD

DRILL-HOLE NO VAL-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	1.79				124			contd from previous page. 124.82
	125.38	(2.33)			125		0.56	LOSS in loose sandstone 125.38
125.38	(3.10)	3.10			126		3.10	SANDSTONE with interlam Mudstone: grey to dark grey, soft, friable. Fine to medium grain, subangular to subrounded grained, slightly cross bedded green grains of Iron Silicates (glauconite) few pink grain of hornblend or etc, Planar lamnae of carby mudstone, pyrite, mostly fine carby material, fossili ferous in middle (Gastropode, Pelecypode) 128.48
128.48	128.48				127			
					128			SANDSTONE: as above. slight calcareous in places with foss. sandstone, non calcareous lenses 1cm thick, very small pelecypode. in lower ½ 130.00
128.48	3.12	1.52			129		1.52	Loss in SS 131.60
					130			SANDSTONE: Medium to dark grey, vf. gr Silty mass. fossil in layer (Pelecypode) Burrows of fossils filled by fairly clear. fine to medium grained SS coal streak and spars, a few 5mm thick irregular distributed 8ps scatted glauconitic grains, more, slightly calcareous. soft, red, deep fine muddy layer, fine pyrite mica 0.28 recovered previous run 134.57
	131.60				131		0.28	
131.60	2.97	3.25 from previous run (2.97)			132		2.97	Sandstone: as above. but becoming more silty more carb more bedded thin lamination of dark grey, mudstone still, very slight calcareous. few glauconite. some fine pyrite and mica no fossil seen. actually middle part Siltstone more, very dark and Carb
	134.57				133			
					134			
134.57					135			
					136			

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Sandstone as above. 137.57
	137.57				137		2.0	SILTSTONE: Sandy lamination to Thin bedding medium dark grey. Fine grained sandstone bands, two Siderite bands 1-2cm Thick 0.25 + 0.95 below top slightly calcareous. 138.72
137.57	(3.00)	2.90			138		1.15	CLAYSTONE: Silty, sandy, red grey. Thin bedded with carb band and Silt bands, one Siderite band. 0.15 cm Thick near middle, Slightly calcareous 139.27
	140.57				139		0.55	SILTSTONE: Dark grey, Sandy, very Foss abd Siderite nods + burrows, poorly bedded, glauconitic, calcareous 139.98
							0.65	Intercolated boney coal and sandstone block and Lenses upto 1.5cm Thick. Sandstone is greenish grey, glauconitic, calcareous. 140.27
					140		0.35	
							0.26	Intercolated carb shale and sandstone blocks burrows and Lenses generally same as above but no coal becomes loose sandstone at base. 140.53
140.57	(2.62)	2.50			141		0.04	SANDSTONE: Loose, friable 140.57
	143.19						2.50	SANDSTONE: Light grey, greenish grey, off white, soft to hard, cross bedded towards bottom, subangular to subrounded grain. Fine carby layer at place, calcareous 143.07
					142			Note at 141.85 is a 10cm very hard orthoquartzitic ss. Fine to coarse grained. Dark min. sharp upper contact w/ thin green silt stone 143.07
								Sandstone loss 143.19
					143		0.12	SANDSTONE: Light grey, off white, greenish grey, soft to medium hard, glauconitic, cross bedded very fine carb layer at places. Fossiliferous (gastropods) 145.21
143.19	3.10	(3.04)			144		2.02	CLAYSTONE: grey, hard, compact, Fossiliferous silty at base, non calcareous, Slight glauconitic at base, Siderite nods. 145.65
					145			SANDSTONE: greenish grey, medium hard glauconitic Fossiliferous, fine to medium grain Charty nodules 146.23
	146.29						0.44	SANDSTONE Loss as above. 146.29
					146		0.68	SANDSTONE: Light grey to greenish grey, glauconitic medium hard, compact, Fossiliferous, muddy 146.72
146.29							0.06	
					147		0.43	CLAYSTONE: grey to dark grey, medium hard compact, Fossil shell fragments, Pyritic, non calcareous, thin brown silty lenses + planar to slightly convolute laminae, Siderite?

DRILL-HOLE NO VAL-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								148.44
	(3.10) 149.39	3.10			148			SANDSTONE: light grey to grey, soft, friable fine to medium grain, sub angular to sub rounded very fine carby layer with Sandstone 149.39
					149		0.95	Interlaminated very fine grained white quartz & Sandstone and dark grey slightly carby mudstone, planer lamina, Sandy siderite nodules pyritic & slight coaly at base. 150.59
149.39	(3.10) 152.49	2.40			150		0.50	COALY SHALE: Black, very fissile resinous. 150.62
							0.03	Interlaminated Sandstone & Mudstone as above. 150.75
							0.13	CLAYSTONE: Grey, massive, sand lenses, hard non. Calcareous. 150.95
					151		0.20	
							1.47	SANDSTONE: Medium grey, very fine grain, very silty almost mudstone, Candy siderite nodules, Faint convoluted bedding of thin silty layers, non calcareous 152.42
					152			SILTY CLAYSTONE: Light grey, hard, compact, pyritic woody fragments. 152.49
152.49	(2.86) 155.45	2.95					0.07	CLAYSTONE: As above. 153.29
					153		0.80	CLAYSTONE: As above. light grey to brownish grey carby at base, compression slickensides. 153.54
							0.25	COAL: Brownish Black, shally, poor cleat, pyritic 153.68
							0.14	
					154		0.90	UNDER CLAY: grey to Brownish grey, rooted carby in places, compression slickensids, pyritic 154.58
								Interlaminated black Sandy Siltstone and very fine grained white sandstone, Siltstone is slightly carby pyritic, sandstone is pyritic and slightly coaly, Planer bedding with a few siderite nodules 155.24
					155		0.66	
							0.16	BONE: Blackish brown, pyritic, shaley. 155.40
							0.02	COAL: Black, brittle, pyritic, Resinous 155.44
							0.05	
155.45	(3.10) 158.55	2.91			156		0.34	LOSS in COAL 155.45
								COAL, Blackish brown, brittle resinous. 155.47
							0.30	COALY SHALE: Blackish brown, hard, Compact, pyritic roots 155.52
							0.22	
					157			UNDER CLAY: light grey, hard, compact, Slickenside carby at base, pyritic, rooted. 156.26
							1.58	CLAYSTONE: Light to brownish grey, hard, Compact Pyritic, silty at base, Compact, pyritic, silty at base COALY PLANT Fragments, SLIGHT carby. grades into 156.36
					158			underlying Unit.
							0.19	SILTSTONE: Brownish grey, hard, Compact, Slight carby, pyritic 156.78
								Sandstone, gray, fine gr, subangular, some green grains and planar laminations of dark gray siltstone 158.36
					159			Loss Probably SANDSTONE 158.55

DRILL-HOLE NO MAL-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION	
					160			SANDSTONE : As above	160.48
								Loss in SANDSTONE	161.57
	(3.02)							SILTSTONE : Grey, hard, compact with thin planer lamination of very fine grained glauconitic quartz sandstone.	162.54
	161.57	1.93			161		1.09	GLAUCONITIC SANDSTONE: greenish grey, soft friable, fine to medium grain, sub angular to subrounded and few pink grain	163.02
161.57								Loss in SANDSTONE	164.57
	(3.00)				162		.97	GLAUCONITIC SANDSTONE: greenish grey, soft friable, fine to medium grain, sub angular to subrounded grain. Few pink grain	165.34
	164.57	1.45			163		0.48	Loss Glauconitic SANDSTONE.	166.80
							1.55	GLAUCONITIC SANDSTONE: as above. coarsening slightly down / med gr.	168.17
164.57	(2.23)				164			Loss SANDSTONE As ABOVE.	169.12
	166.80	: 0.77			165		077	Core NIL	170.32
								SANDSTONE: Light gray, friable Dominantly consists of subangular to Subrounded, medium to fine to medium. Subrounded to rounded, light to dark green, probably of glauconite, very rare quartz grain (. 1%) have thin coating of yellow brown and red colour (probably iron oxide) which makes the grains translucent, Cementing material which is clay is almost, negligible Sandstone consist of more than 90% crystal clear quartz grains, Friable. (Sandstone as above, Slightly loss glauconite)	
					166		1.46		
168.80	(2.32)				167				
	169.12	1.37					1.37		
					168				
					169		0.95		
169.12	(1.20)								
	170.32	NIL			170				
					171				

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								177.12
								Core Loss probably Sandstone as above. 173.32
								SANDSTONE : Friable same as above 173.62
								SILTSTONE: pebble conglomerate, subrounded to subangular pebble size, siltstone clasts in a matrix of fine to medium grained, calcareous Glauconitic quartz sandstone, very pyritic, very heavy. 173.88
173.32	173.32 (3.00)	0.80			172		2.20	CLAYSTONE: light grey, sandy contains medium size rounded, opaque, qtz sand grain in plenty, scattered throughout the rock, Amount of sand grains gradually decreasing downward. Few patches of fine grain of Pyrite marcasite, traces of carbonaceous material, Grades into claystone coluch is not sandy 174.52
	174.77 (1.45)	1.45			173			Claystone : not sandy, few slickensides, traces of carby material, light grey. 174.77
174.77	176.32 (1.55)	1.55			174		0.84	Claystone : Lige grey, slightly carbonaceous. 174.94
								Claystone, Grey highly carbonaceous. 174.99
					175			COAL 175.17
								CLAYSTONE: Grey, brown, carbonaceous, Pyritic 175.89
176.32	179.42 (3.10) (3.05)	1.05			176		2.05	CLAYSTONE: Grey, carbonaceous, pyritic Plant frag. Underclay. 175.52
								CLAYSTONE; Dark grey, pyritic, Highly carbonaceous. 175.63
					177			COAL: DULL Black, shaley, pyritic 175.80
								CARBONACEOUS SILTSTONE: Dark grey, coaly, pyritic 176.57
					178			SILTSTONE: grey, sand filled burrows and pyritic plant fragments 176.32
175.42	180.42 (1.00)	0.63						SILTSTONE: as above sandy. 176.50
					179		0.63	SANDSTONE: Grey, fine to very finegr. bands of dark clayey material, compact 176.94
							0.37	SANDSTONE: Grey, medium grey, friable, clayey. 177.37
180.42	182.57 (2.15)	0.93			180		0.93	Core Loss probably Sandstone as abore. 179.42
								SANDSTONE: Grey, friable, fine to medium grained subrounded to subangular, slightly clayey, Dominently quartz grain. 180.05
					181		1.22	Core loss probably sandstone as above 180.42
								SANDSTONE: Grey, friable, consists dominantly of fine to medium subangular to subrounded quartz grain, slightly clayey, at places slightly carbonaceous. 181.35
182.57					182			Core loss probably SANDSTONE. as above. 182
					183			

CONTD

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					184		0.35	SANDSTONE: Grey, friable, fine to medium grained, subrounded to subangular, almost all quartz grains, slightly clayey and slightly carbonaceous in the lower portion, more fine grains at top and more medium grained near bottom. 183.32
	184.58 (2.01)	0.85					0.10	
							1.16	SANDSTONE: muddy, highly carbonaceous, fine to coarse grained. Dark grey 183.42
184.58								Core Loss 184.58
	185.67 (1.09)	1.09			185		1.08	Interlaminated Siltstone & Mudstone and fine Sandstone Burrows filled with coarse sandy, gray to light grey lenses of fine sand, mostly planer some Cross laminated Sandstone is pyritic 185.67
185.67					186			SANDSTONE: Grey, muddy, very fine to fine grained contain few glauconitic grains, fine to very fine grains of pyrite, marcasite have replaced plant fragments at place, slightly carbonaceous, coarsen downward, sandstone becomes fine to medium grained and friable at bottom, top half has thin lamina of grey mudstone and is gradational with overlying unit 188.57
	(2.90)	2.90			187		2.90	
	188.57				188			
188.57					189			SANDSTONE: grey, friable, loose, slightly clayey consists almost wholly of fine to medium grained subangular to subrounded quartz. Dark grain very rare. 190.00
	190.00 (1.43)	1.43					1.43	SANDSTONE: Same as above slightly coarser grains 190.71
					190			190.63 to 190.68 is hard and compact sandstone yellowish grey due probably to yellow iron oxide
190.00							0.71	Core Loss probably Sandstone as above 191.57
	191.57 (1.57)	0.71			191		0.86	SANDSTONE: Grey, fine to medium grained and few coarser grains as well finer grains subangular, coarse grains subrounded, slightly clayey, contain few fine, rounded dark coloured grains. Friable 193.00
191.57								SANDSTONE: Same as above, slightly muddy 194.10
	193.00 (1.43)	1.43			192		1.43	
					193			Core Loss probably Friable Sandstone as above 194.57
193.00							1.10	
	194.57 (1.57)	1.10			194		0.47	
					195			

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	196.50 (1.93)	1.93			196		1.93	SANDSTONE: As above slightly muddy 196.50 SANDSTONE: grey medium hard, compact, fine to medium grained, medium top grading fine to the base, very muddy, rare carb lenses, massive subangular to subrounded grain, slightly clayey at the base, mostly quartz grains 197.57
196.50	197.57 (1.07)	1.07			197		1.07	
197.57	200.57 (3.00)	3.0			198 199 200		3.0	SANDSTONE: Grey, dark grey, very fine grained, poorly sorted, sub angular, very muddy faint convoluted dark mudstone laminae 200.57 Light grey to grey, off white, fine to medium grained, subangular to subrounded, few glauconitic grain, massive, lower greenish grey half part more glauconitic grain 203.47
200.57	203.57 (3.00)	2.90			201 202 203		2.90	loss Sandstone as above. 203.57 SANDSTONE: As above greenish grey glauconitic grains, pink grains and light grain other type of ironsilicates, very thin carby layer at places. 206.33
							0.10	loss as above SANDSTONE 206.57
203.57	206.57 (3.00)	2.76			204 205 206		2.76	
					207			

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							1.0	SANDSTONE: As above. 207.57
	209.57 (3.00)	(3.0) 1.0			208			SANDSTONE Loss as above. 209.57
							2.0	SANDSTONE: As above. 212.57
209.57	212.57 (3.00)	3.0			209			Loss sandstone As above. 212.59
					210			SANDSTONE: lower base part (0.25) light greenish grey, off white, calcareous very hard, massive, upper part as above. 213.91
					211		3.0	SILTSTONE: grey to dark grey, muddy at places, pyritic, contain shell fragments, sandy very pyritic 214.10
212.57	213.91 (1.34)	1.32					0.62	Matrix of Calcite sand, silt and clay Hard, Compact, calcareous, pyritic 214.18
					213		1.32	Calcareous Mudstone: Sand, Silt & clay grey, massive with boywork, sparry calcite veins. 214.18
213.91	215.57 (1.66)	: 1.65			214		0.19	SILTSTONE: Grey to dark grey, muddy at places contain shell fragments, pyritic 214.34
							0.16	Matrix of Calcite Silt and clay, hard, Compact calcareous, Same as above, calcareous mud Box work sparite 214.40
					215		1.08	SILTSTONE: Grey to dark grey at places, muddy, pyritic Burrows filled with coarse grains, thin planer lamnae ½ Cross Lamnae of very fine grained, sandstone, possible glauconitic, Large high Spiral snail 215.48
215.57	(3.00)	3.00			216		0.35	SANDSTONE: whitish grey, hard, compact, calcareous finite medium grained dominantly quartz and lesser dark coloured grains, cementing material becomes little pyritic 215.56
					217		2.10	core loss 215.57
	218.57				218		0.48	SILTSTONE: Medium & dark grey, shell frag. pyritic, poorly bedded 215.92
218.57								CLAY with calcite crystal and veins, clay soft, plastic not Gypsi 215.99
					219		0.70 55	CLAYSTONE: light greenish grey to med dk. grey. fossil fragments Abundant glauconite pellets, siderite blobs, lower part slight calcy non glauconitic brownish grey. 218.09
					220			SILTSTONE: clayey light greenish grey to light grey few fossil fragments, few burrow filled with glauconite pellets, poorly lowsided bedded, Marcasitic — 218.57

contd

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	221.67 (3.10)	3.10			221		1.50	SANDSTONE: light greenish grey, hard, f to med. highly glauconitic few siderite nodules fossil frag. pyritic, clayey, Calcareous. 219.27
							0.90	SANDSTONE: fine grained, sandy Mudstone interlaminated glauconitic, few qtz grains, pyritic, shell frag. carb material 220.77
222.17	222.08 (0.41)	0.39 (1.50)			222		0.39	SILTSTONE: poorly bedded, light grey, SL, pyritic, siderite nodules, fossil fragments (gastropods) Muddy at place fine sand lenses. 221.67
222.08							0.11	
222.17	223.80 (0.74)	0.40			223		0.40	CLAYSTONE: grey, pyritic. few fossil fragments, Abundant slickensider, few small sand lenses in the upper part In the lower 5cm there are two thin laminae of fine to medium grained quartz, glauconite grain, mostly rounded and fossil fragments 222.06
1.63							1.23	SANDSTONE: light to med dark grey, hard, compact fine grained quartz, Abundant rounded glauconite grain, calcarious, Probably Cementing material fossiliferous 222.17
223.80	225.41 (1.61)	1.50			224		1.50	SANDSTONE: Calcareous, slightly clayey, Abundant green to dark green glauconitic grains, mostly rounded, contain fossil fragments, (Gastropods) lower half muddy sandstone less cemented towards bottom 222.57
					225		0.11	Core loss 223.80
225.41	226.74 (1.33)	0.97			226		0.28	SANDSTONE: light greenish grey, fine grained, contain abundant glauconite grains, Alternate well cemented hard, and friable, loose bands, SL. Calcareous at places 225.30
							0.36	
							0.59	Core loss Probably Sandstone friable as above. 225.41
226.74					227			SANDSTONE: light greenish grey. alternate hard and soft bands, cementing material calcareous. glauconitic fossil fragments (gastropods) 225.69
								Core loss in SANDSTONE below, may actually coal below 226.05
								SANDSTONE: Muddy, Dark grey. abundant fossil fragments, fine to coarse grained, pyritic, glauconitic grains less than above, thin coal bands 226.64
					228			CARBSHALE: Brown, dull black, very clayey, waxy slightly carby, pyritic, plant casts 226.69
								COAL: Dull Black, soft. pyritic and resinous, Slightly banded, poor cleat, blocky to semi-conchoidal, has a thin lamella of fine grained Sandstone with glauconite pellets and high spired gastropods at Top 226.72
					231			CARBSHALE: Dark grey, brown fissile, clayey, waxy pyritic, plant casts 226.74
								CARBShale: Silty, dark grey more earthy than above becomes Siltier down and grades into underlying unit Coal streaks, pyritic 226.88

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS
	228.03 (1.29)	1.29					
228.03	230.46 (2.43)	2.43					
230.46	233.11 (2.65)	2.60					
233.11	234.46 (1.35)	1.35					

Depth marks: 228, 229, 230, 231, 232, 233, 234, 235

Thicknesses: 0.43, 0.72, 0.04, 0.06, 1.07, 0.38, 0.08, 0.15, 0.03, 0.42, 0.23, 0.22, 1.10, 1.15, 0.05, 0.05, 0.07, 0.33, 0.60, 0.39, 0.03, 0.51

LITHOLOGIC DESCRIPTION

Description	Depth
SILTSTONE: grey, brown, massive, slightly carbonaceous, very pyritic, clayey	227.31
SILTSTONE: Dark grey to white as above with well developed planar very fine grained sandstone laminae	228.03
SILTSTONE: interlaminated with sandstone as above; siltstone is quiet waxy getting carbonaceous at base	228.07
CARB SHALE. Black, coaly, waxy to earthy with thin sandstone laminae	228.13
SANDY SILTSTONE: grading downward to silty, very fine grained sandstone light grey, rooted, massive, coal spars, grey brown medium grain oolites scattered through lower half, possibly chamosite or phosphate, Hard, calcareous, very fine to fine grained at base	229.17
SILTSTONE: Grey, brown, grey, massive, carby, pyritic, plant fragments grades into underlying unit	229.55
CARBSHALE: light & dark brown, moderately carby, coaly plant fragments, compression sediments	229.63
COAL: Dull brown, some what shiley	229.78
CARB SHALE: coaly, very carbonaceous brown, very fissile	229.85
UNDER CLAY; Dark grey carby, massive, rooted, compression slickensides	230.23
UNDERCLAY: light grey, massive silty, rooted, compression slickensides	230.46
UNDERCLAY AS ABOVE	230.66
SILTSTONE: Grey, massive, rootlets, and compression slickensides gradational into above and below	231.78
SANDSTONE. Grey, very fine grained at top coarsens down to fine grained at base, muddy, poorly sorted throughout carbonaceous rootlets, medium grained oolites of dark ferruginous (Chamosite)	232.93
SILTSTONE: Grey, massive, clayey	232.99
loss	233.04
Recovered next run claystone as below	233.11
CLAYSTONE: light-med grey, pyritic, slightly carby at base	233.44
CARB CLAYSTONE: light to dark brown, varies from lightly carbonaceous, coaly shale to moderately, carbonaceous, claystone pyritic, earthy to waxy & compact	234.04
COAL: Black, very faintly banded conchoidal fracture poor cleat, relatively clean, pyritic, disseminated along laminae	234.43
SHALE: Gray, slickensides, soft, out of place in box driller says it came from core lifter, recovery from run was 0.07 excess, does not look like drilling mud (BEDDED) But to the in place of coal	234.46
CARB SHALE: Dull Black, almost coal but very shaley fissile. 0.02 coal at 334.53 pyritic, waxy sampled to the in geophysics	

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(2.05) 236.51	2.03			236		0.45	SILTSTONE: Med grey, massive, muddy and carby at base sandy at top, grades from carby sandstone at base to overlying SS 235.42
							1.07	SANDSTONE: fine grained, subangular, muddy, coarsens slightly upwards medium grey with faint darker mottling faintly bedded 236.49
							0.02	Core Loss in SANDSTONE (0.02) 236.51
236.51	(2.93) 239.44	2.09			237		0.59	Interlaminated very fine grained, light grey Sandstone and grey mudstone, laminated to thin bedded, some Cross laminated and some turbidity 237.10
								Core loss in Sandstone below 237.94
					238		0.84	SANDSTONE: fine grained, subangular, relatively clean slightly glauconitic, hard 238.10
							0.16	SANDSTONE As above 238.20
							0.10 0.05 0.13 0.21	SANDSTONE: Med to Coarse (>) grained, med grained quartz glauconitic Sandstone in a very calcareous cement coarse angular, apparent clasts of siderite or hematite, hard 238.25
					239		0.75	Interlaminated white fine grained qr quartz Sandstone and black carby mudstone 238.38
239.44	(1.33) 240.77	0.70					0.10	Carb Shale: brown, waxy, conchoidal, fractured, coaly at base 238.59
					240		0.40	Siltstone: Grey, massive, sandy at basi 239.34
							0.63	SANDSTONE: Grey, fine grained, faint carby lamina 239.44
							0.30	SANDSTONE: grey, fine grained with thin black carby mudstone lamina, Sandstone is fairly clean 235.84
240.72	(1.09) 242.46	0.04			241		1.05	Core Loss in Sandstone 240.47
								SANDSTONE: As above 240.77
								Loss as below 241.82
242.46	(1.34) 244.00	0.83			242		0.64	SANDSTONE & Shale interlayered: Sandstone, light grey, off white Shale grey, Sandstone fine grained Sandstone and shale very finely interlaminated medium Compact, Soft 242.46
							0.18	SS as above 242.64
								CORE: Loss as above 243.17
					243		0.53	As above slight Carb. very fine coaly layer at one place
							0.63	SILTSTONE: Grey, medium compact, fine pyritic grai slightly muddy 244.00
244.00	(1.55) 245.55	1.55			244		0.20	SILTSTONE: Dark grey, hard, compact, muddy slightly sandy at places, pyritic 245.55
					245		1.55	CARB SANDSTONE: Light grey to dark grey, soft to hard, fine to medium grained, subangular to subrounded coaly lenses, mostly quartz grains, loose and friable at the base, thin wavy carby lamella 246.49
245.55	(0.82) 246.37	0.94			246		0.94	
					247			

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION	
	(2.33)						0.88	As above Core loss	247.37
247.37	248.29 (0.92)	0.51			248		0.51	Light grey to grey soft, friable, fine to coarse grained subangular to subrounded grain, almost quartz grain slight carb.	
							0.41	SANDSTONE As above	248.29
248.29	(3.08)	1.20			249		1.06	SANDSTONE: grey, soft, fine grained, subangular to subrounded grain	248.35
								loss probably Sandstone as above	250.23
					250		1.88	Claystone: light greenish grey, sandy pyritic, lenses of coarse, subrounded grain of quartz; few slickenside few black patches (probably carbonaceous) burrowed rooted sand lenses. decrease downward lower portion not sandy	251.05
	251.37				251		0.82	CARBSHALE: Dark brown, coaly, pyritic	251.20
								SILTY SHALE: Dark grey, slightly carby	251.37
							0.15	MUDSTONE: grey, pyritic, silty carbonized plant frag. and disseminated carbonaceous matter. Contain lenses of fine sand, Mudstone silty grades into Sandstone muddy at the base	252.71
251.37	(3.00)	3.0			252		1.34	SANDSTONE: Muddy, slightly pyritic contain disseminated carbonaceous material, lenses and thin laminations of dark grey mud, Sandstone finer grained, probably of glauconite and disseminated carbonaceous material	254.37
	254.37				253		1.66	SANDSTONE: light grey, fine grained, slightly muddy glauconitic, thin laminae of carbonaceous material friable at bottom	255.74
					254			Core loss	256.45
254.37	(2.96)	2.25			255		1.37	SANDSTONE: hard, calcitic grey with thin laminae of carbonaceous, coaly material, hard pyritic, calcareous, coal spars, fine grained	256.65
								SANDSTONE: light grey disseminated carbonaceous material, pyritic, black, rounded, medium size grain scattered throughout the rock (chamosite) burrowed coal spars, Similar to above but is or calcareous, very fine to fine grained, muddy	257.37
	257.33				256		0.71		
							0.20	Sandstone: light grey to grey, medium hard, compact fine grained, very fine carb lenses at places micaceous, black grains? very fine grain of pyritic very thin coaly chip at base	257.48
257.33	(2.82)	2.82			257		0.45	CLAYSTONE: light grey to grey medium hard, compact pyritic, plant roots, sandy, grades into above unit	257.93
					258		0.14	CARB CLAYSTONE: grey to brownish grey, medium hard pyritic, very thin coaly lenses	258.07
							0.19	COAL: Brownish black, brittle, Pyritic, blocky, Slight resin	258.26
							0.36	Slight Carb Shale: grey, to greyish black, medium hard compact, Slight silty, fissile, Coaly flecks	258.62
					259				

DRILL-HOLE NO UAL-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	260.15				260		.53	SILTSTONE: Medium grey to grey, medium hard pyritic, Slight carb, coaly particles, Slight towards bottom 260.15
260.15	(3.01)	3.01			261		2.38	SILTSTONE: light grey, medium hard, compact muddy, carbonaterial, disseminated at places sandy siderite nodules 262.53
	263.16				262			SANDSTONE: light grey, fine grained, fine pyritic grain, silty disseminated particles carby material. 262.76
							0.23	SILTSTONE As above 263.16
					263		0.40	
					264			

Form 3a

DRILL-HOLE NO UAL-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	THICKNESS	LITHOLOGIC DESCRIPTION
0.00	(4.09) 4.09	NON CORING				4.09
4.09	(1.50) 5.59	0.36			0.36	CORING Sandstone, pale red 5 R 6/2. med. grained, subrounded, quartzitic with few Fe, Mg mineral grains < 1%. 4.45
					1.14	CORE LOSS (1.14).
						[illegible] 5R [illegible] R 3/[illegible] 5.59
5.59	(2.91) 8.50	2.76			1.29	Sandstone, same as above except lower 20 cm friable. [illegible] 6.88.
					0.60	Sandstone, greyish orange 10YR 7/4 coarse grained, hard, subrounded, poorly sorted with thin bands stained pale reddish brown 10R 5/4 and dark reddish brown 10 R 3/4. quartzitic hard. 7.48
					0.20	Sandstone moderate reddish brown 10R 4/6 medium grains grades downward into fine grained sst. otherwise same as above. (ferruginous) 7.68
					0.21	Sandstone dark reddish brown, medium & coarse grained, hard, quartzitic, ferruginous 7.89
					0.22	Sandstone — med. & fine grain v. dark reddish br. 10R 3/4 to v. dark red 10R 2/2 8.11
					0.14	Sandy shale pale red 10 R 6/2 to pale yellow with ferruginous coating. 8.25
					0.25	CORE LOSS [illegible] 10R 6/2 [illegible] ferruginous [illegible] 8.50
8.50	9.05 (0.55)	0.65			0.55	Claystone, light grey N-7 with bands of yellow red and brown, slightly silty and sandy at base. ferrugenous 9.05
9.05	9.25 (0.20)	0.20	100		0.20	Claystone, same as above. 9.25
9.25	(1.10) 10.35	1.10	100		0.20	Claystone, Gray, with brown, reddish brown nodules of ironstone 1cm thin Gypsum Band. 9.45
						Claystone, Gray, with brown, yellow and reddish brown nodules of ironstone, Slickensided with one thin veinlet (1mm) of gypsum 10.35

DRILL-HOLE NO UAL-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								10.35
10.35	(1.22) 11.57	0.52	42%		11		0.52	CLAYSTONE 10.87
							0.70	CORE LOSS 11.57
11.57	(2.93) 14.50	NIL	ZERO		12 13 14		2.93	CORE LOSS (PROBABLY SS.) (glass sand) - very loose sand, fine grained. washed out. 14.50
14.50	(3.05) 17.55	1.56	51		15 16 17		1.49 1.56	CORE LOSS - PROBABLY SS. 15.99 SANDSTONE Light olive grey 5Y/6/1 to lt brownish grey 5Y R6/1. med. grained friable to slightly hard indurated. rounded, well sorted quartzitic, with occasional Fe-Mg grains <1%. cross bedded in lower part. 17.55
17.55	(2.95) 20.50	NIL	ZERO		18 19 20		2.95	CORE LOSS - PROBABLY LOOSE SAND 20.50
					1 2			

DRILL-HOLE NO UAL-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20.50	(0.65) 21.15	0.65	100		21		0.65	20.50 SAND, loose, fine to medium grained, subrounded to subangular. Dominantly quartz grains. Less than 5% ferromagnesian grains. Light greyish brown to light yellowish brown coloured due to presence of iron oxides. Contains few comparatively compact bands of ferruginous s.st. of brown and dark brown colour. 21.15 (20.50 – 21.15)
21.15	(1.73) 22.88	1.25			22		1.25	Sand with bands of brown ferruginous comparatively compact sandstone. Sand of dominantly quartz grains, fine to medium, subrounded to subangular. Light brownish yellow to light brownish grey coloured. Bands of comparatively hard ferruginous brownish sandst. contains at places white, milky and pink grains probably of felspar. 22.40
							0.48	CORE LOSS PROBABLY SAND 22.88
22.88	(0.47) 23.35	NIL			23		0.02	0.02 LOSS
							0.45	Recovered next Run SS as below
23.35	(1.70) 25.05	2.15			24		1.70	Sand moderate yellowish brown 10 YR 5/4 medium grained, quartzitic few bands of slightly indurated sandstone with brownish hue. 25.05
25.05	(1.50) 26.55	nil			25, 26		1.50	CORE LOSS. 26.55
26.55	(0.20) 26.75						.20	26.75 CORE LOSS
26.75	(1.45) 28.20	1.54 ?			27, 28		1.45	CLAYSTONE Light grey N/7, compact with patches and thin bands of Fe-oxide. few thin <1mm veinlets of gypsum. lower 4cm with few thin carbonaceous flakes. 28.20
28.20	(0.90) 29.10	0.82			29		0.31	CARBONACEOUS SHALE, dark grey to black 1cm gypsum band, Pyrite/marcasite patches and plant impressions/carbonaceous 28.51
							0.51	COAL SAMPLE # UAL-4-1 – 0.11 28.51-28.62; UAL-4-2 – 0.15 28.62-28.77; UAL-4-3 – 0.19 28.77-28.96; UAL-4-4 – 0.06 + 28.96-29.30
							0.06	[illegible] 29.04
29.10	(0.25) 29.35	0.31						~~ROOF RECOVERED~~ NEXT RUN UAL-4-4 29.10
							0.20	COAL UAL-4-4 29.30
							0.05	[illegible] SHALE 29.35
29.35	(1.47) 30.82	1.47			30		0.34	UNDER CLAY 29.69
							0.13	CARBONACEOUS SHALE / BONY COAL 29.82
							0.21	UNDER CLAY. 30.03
							0.79	CLAYSTONE, grey, compact, 3.82
					31, 32			

Form 3a

DRILL-HOLE NO UAL-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								30.82
30.82					31		0.62	CLAY STONE light grey, Compression slikensided rooted upper half slightly sandy. ← Claystone
							0.18	UNDER CLAY Light grey, rooted compression slikensided 31.44
							0.09	CARB. SHALE 31.53
	(1.58)	1.58						COAL 31.63
					32		0.67	UAL-4-5 (4 bags fine bands of briter material. Lots of Pyrite replacing plant material, some woody structure replaced by pyrite, small resin blebs.
32.40							0.10	CARB. SHALE dk. grey-black, Pyritic, slikensided 32.40
							0.45	CLAY STONE med. grey, compact, sliken sided, Pyritic, rooted, carb. mosem Gyp. band at the base. 32.50
					33		0.70	CLAY STONE Silty rooted Pyritic, few white opaque rounded grains. slightly rooted, 32.96
	(3.0)	3.0					0.84	SILT STONE medium grey N-5 compact, few white opaque grains becomes clayey in lower half grades downwards in claystone. 33.96
					34		0.60	CLAY STONE medium grey, compact upper half Silty slightly Pyritic. rooted, grades into carb. sh (lowest 4cms carb sh). 34.50
								CARB SHALE 35.10
35.40					35		0.30	COAL Sample # UAL-4-6. Shaly coal
							0.25	UNDER CLAY 35.40
								CLAYSTONE/UNDERCLAY. Dark grey N3 med-light grey N6 35.65
					36		0.96	slightly carbonaceous, pyritic, Sandy.
	(2.95)	2.95						36.61
					37		0.66	SAND ST.? greenish grey 5GY 6/1 hard fine to med. grained Pyritic
								37.27
							0.87	CLAY STONE medium grey N5 slightly carb.
					38			38.14
38.35							0.21	Sample # UAL-4-7 / bony Coal / CARBONACEOUS SHALE 38.35
							0.96	COAL # UAL-4-8 2 bags.
					39			39.10
								CARB SANDSTONE 39.44
	(2.35)	2.35					1.22	SILTY SAND STONE, light grey, v. fine grained, compact. carbonaceous towards base.
					40			40.36
								CARB. SHALE BRN. BLACK, PYRITIC 40.47
40.70							0.23	COAL 40.70
					41			
					42			

DRILL-HOLE NO. UAL-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								40.70
40.70	(3.00) 43.70	1.80			41		0.38	CLAY STONE Grey, Compact, rooted, slightly carbonaceous. 41.08
							0.16	COAL Dark Grey to black. 41.24
							0.56	CLAY STONE. 41.80
					42		0.19	CARB. SHALE 41.99
							0.19	DIRTY COAL 42.18
							0.32	SAND STONE 42.50
					43		1.20	CORE Loss Probably Sand stone 43.70
43.70	(0.85) 44.55	0.45			44		0.40	CORE Loss - ~~Probably Sand stone~~. 44.10
							0.45	Sand stone, grey, friable, medium grained, grades into very fine grained Sand stone towards base. 44.55
44.55	(1.50) 46.05	1.40			45		0.53	SAND STONE medium grey fine grained upper part slightly carbonaceous, rooted & pyritic, grads downward to med. grained Sand 45.08
							0.77	SAND, loose / friable, med, grained, quartzitic 45.85
					46		0.1	SAND STONE hard lt grey N/7, med gnd, quartz ges dominant 45.95
							0.1	CORE LOSS 46.05
46.05	(1.53) 47.58	1.20			47		1.20	SAND. grey, medium, fine coarse grained, subrounded grains, dominantly quartz. 47.25
							0.33	CORE LOSS hard [illegible] N/7, [illegible] 47.58
47.58	47.80						0.05	sand stone grey, medium to coarse grained, subrounded grains. quartzitic 47.63
							0.17	CORE LOSS 47.80
47.80	(0.65) 48.45	0.65			48		0.65	Sandstone - Grey, medium to Coarse grained, sub-rounded to rounded, soft, loose, friable, dominating quartz grains. 48.45
48.45	(0.88) 49.33	0.48					0.48	Sandstone - olive grey, medium to Coarse grained, sub-rounded to rounded, soft, loose, friable, at places with bands of hard sandstone. 48.93
					49		0.4	CORE LOSS - Sandstone 49.33
49.33							0.07	CORE LOSS 49.40
	49.60	0.20					0.20	Sandstone - Light grey, fine-medium grained, sub-angular to sub-rounded, soft, loose 49.60
49.60	(0.35) 49.95	0.15					0.15	Sandstone - Light grey, fine-medium grained, sub-angular to sub-rounded, hard 49.75
							0.20	CORE LOSS - Sandstone. 49.95
49.95	(0.72) 50.65	0.23			50		0.52	CORE LOSS in Sandstone 50.47
							0.18	Sandstone - olive grey, fine-medium grained, sub-angular to sub-rounded, soft, loose 50.65
50.65	(0.82) 51.17	0.52			51		0.52	Sandstone - Light grey, fine-medium grained, sub-rounded to rounded, well sorted soft loose, friable 51.17
					52			

DRILL-HOLE NO. UAL-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					51			51.17
51.17							0.28	CORE LOSS (in sandstone) 51.45
51.45	(2-25)	0.05			52		2.20	CORE LOSS
	53.70				53			53.65 SANDSTONE Olive grey, medium to coarse grained, subangular to subrounded, poorly sorted, hard, compact. 53.70
53.70	(2.90)	NIL			54		2.90	CORE LOSS
	56.60				55			
					56			56.60
56.60	(1.52)	NIL			57		1.52	CORE LOSS
	58.12				58			58.12
58.12	(1.58)	0.04			59		1.54	CORE LOSS
	59.70							59.66 SANDSTONE, hard, gray, medium grained, Cement, Cement probably siderite 59.70
59.70	(1.10)	NIL			60		1.10	CORE LOSS
	60.80							60.80
					61			
					62			

Form 3a

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DRILL-HOLE NO. UAL-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								~~60.80~~
60.80	(1.30) 62.10	1.30			61		0.08	~~Sand stone light grey hard, fine grained subangular rounded quartzitic Pyritic Carbonate cement~~
							0.42	MUDSTONE, dark grey carbonaceous, pyritic, abundant plant material rooted, Compression & Slikensided. 61.50
							0.2	COAL 61.70
					62		0.6	Mud stone, dark grey, Carbonaceous, Pyritic, plant material replaced by pyrite, resin globules. Compression slikensided. 62.10
62.10	(1.75) 63.85	1.75			63		1.75	Silt stone & Shale inter laminated grades downwards into fine grained sand stone, muddy, dominantly quartz grains, rounded moderately sorted. 63.85
63.85	(1.05) 64.90	1.05			64		0.48	CLAY STONE. Silt stone interbedded (dark grey & yellowish brown bands; 64.33
							0.35	SANDSTONE with clayey bands 64.68
							0.22	SAND. grey fine to medium, subrounded, poorly sorted muddy 64.90
64.90	(1.15) 66.05	0.86			65		0.86	SAND grey, fine to med. grained, subrounded moderately sorted, slightly muddy/clayey & silty. dominantly quartz 65.76
					66		0.29	CORE LOSS 66.05
66.05	(0.90) 66.95	0.55					0.55	SAND. med. grey, coarse grained, subangular to subrounded quartzitic. Clear qtz, occasional milky & Pink qtz grains. 66.60
							0.35	CORE LOSS 66.95
66.95	(1.95) 68.90	0.40			67		0.4	Sand coarse grained, quartzitic subrounded - subangular. 67.35
					68		1.55	CORE LOSS 68.90
68.90	(3.05) 71.95	2.90			69		0.15	CORE LOSS 69.05
					70		1.87	Mud stone, light grey compact, slightly Carbonaceous few burrows present upper part is more sandy. 70.92
					71		0.42	Clay stone silty rooted, carb material. 71.34
							0.61	Clay stone, Silt stone cross laminated, carbonaceous material along bedding plane 71.95
					72			

Form 3a

DRILL-HOLE NO UAL-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					71			71.95
71.95	(0.75) 72.70	0.75			72		0.75	Silt stone and shale cross laminated, carbonaceous material along bedding plane, light grey to dark grey Sand. fine grained grades downwards in med.gr. Sand, quartzitic. 72.70
72.70	(1.90) 74.60	1.90			73		1.4	Silt stone & Shale cross Laminated, Carbonaceous material along bedding plane, light grey to dark grey in colour grades downwards into fine grained Sand.
					74			74.10
							0.5	Sand, grey, fine grained, subrounded grains, dominantly quartz grains, muddy/clayey. 74.60
74.60	(1.85) 76.45	1.83					0.13	SANDSTONE Light grey, hard, fine grained, clayey <1% Fe-mg grains 74.73
					75		0.59	SAND, grey, at places indurated, fine to medium grained, muddy dominantly quartz grains, glauconitic. 75.32
							0.19	SANDSTONE, Lt. grey, hard, fine to med grained otherwise same as above 75.51
					76		0.92	SAND grey, medium grained otherwise same as above
							0.02	CORE LOSS 76.43 76.45
76.45	(1.75) 78.20	1.69			77		1.69	Sand, light grey - grey, at places slightly indurated medium grained, subrounded, well sorted, quartzitic <1% Fe-Mg minerals glauconitic, milky, opaque cement probably chert.
					78		0.06	78.14 CORE LOSS 78.20 78.26
78.20	(2.10) 80.30	2.04			79		2.04	Sand light grey, medium to coarse grained, Subrounded to Subangular, moderately sorted, dominantly quartz grains, slightly clayey (approx 5-10%)
					80			80.30
80.30					81			
					82			

Form 3a

DRILL-HOLE NO UAL-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								80.30
80.30	(0.50) 80.8	0.22					0.28	CORE LOSS IN SS 80.58
							0.22	sand, coarse grained, rounded, well sorted quartzitic 80.80
80.8	(0.9) 81.7	0.34			81		0.56	CORE LOSS in SS. 81.36
							0.34	sand, grey, coarse grained, rounded grains, dominantly quartz with thin carbonaceous plant trash material 81.70
81.7	(2.50) 84.20	2.11			82		2.11	Sand grey, fine to medium grained, grades downward to coarse grained sand. rounded, poorly sorted muddy upper part cross laminated carbonaceous material occasionally present along bedding plane. 83.81.
					83			
					84		0.39	CORE LOSS 84.20.
(0.30) 84.20	84.50						0.30	Sand. Same as above but no carb. material. 84.50
84.50	(1.40) 85.90	1.20			85		1.20	SANDSTONE, grey, compact, hard in the upper half grades into loose sand in the lower half, shale bands near bottom quartz grains dominant, fine grained subangular to subrounded to subangular 85.39
							0.26	CORE LOSS 85.90
85.90	(1.35) 87.25	1.15			86		0.20	CORE LOSS 86.10
							0.70	SAND STONE grey to dark grey, fine to medium grained, subrounded to subangular, dominantly quartz. few black shale bands. bottom 5cms carbonaceous and Pyritic. 86.80
							0.10	CLAYSTONE light grey, sand, dark grey rounded grains, Pyritic, burrowed 86.90
					87		0.35	SILTSTONE, light grey, compact, Pyritic, slightly rooted, at places carbonaceous, few dark rounded grains 1-2 mm size 87.25
87.25	(2.70) 89.95	2.70					0.70	SILTSTONE, Light grey N-7, compact, hard, Pyritic, rooted / burrowed, replaced by Pyrite at places clusters of rounded dark grains. grades downwards into claystone 87.95
					88		1.40	CLAYSTONE light grey N-7, compact, rooted / burrowed probably replaced by Pyrite, slikensided slightly carbonaceous few cms above the base. Lower 7cms is highly carbonaceous shale, which grades down wards (lower 3 cms) into Coal bony. 89.35
					89			~~CARBONACEOUS SHALE 0.07m~~ ~~CARBONACEOUS SHALE 0.05m~~ ~~BONY COAL~~ 89.60
							0.60	COAL BONY? UAL-4-9 (0.25m)
								COAL UAL-4-10 (0.35) 89.95
					90		0.15	UNDER CLAY/CARBONACEOUS CLAYSTONE DARK grey to black, Pyritic, Slikensided
					91			
					92			

Form 3a

DRILL-HOLE NO UAL-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.00)	3 m.			90.1		1.90	Clay stone grey N-7, compact Pyritic, burrowed, rooted? compression sliken sided. Pyrite replacing plant material few rounded, dark mineral grains?
					91			
					92			92.0
							0.05	CARB. SHALE 92.05
							0.38	BONY COAL — UAL-4-11 92.43
								COAL UAL-4-12
	92.95						0.52	92.95
92.95					93			SILT STONE, light grey, compact, hard, upper few cms slightly carbonaceous, Pyritic, grades downwards into sandstone fine grained sand stone
	(3.0)	2.93			94		2.86	
					95			
	95.95						0.07	COAL 95.81
							0.07	CORE LOSS 95.88
95.95					96		0.1	CARB. SHALE 95.95
								CLAY STONE 96.05
							1.10	
					97			97.15
	(3.00)	3.00					0.35	Silt stone, Shale interbedded, cross bedded, light grey to dark grey At few places Pyrite replacing plant matter. 97.50
								Silty clay stone, olive grey rooted
							0.6	
					98			98.10
							0.85	Silt stone - Shale Cross bedded / Laminated, light grey - dark grey with light brownish bands.
	98.95							98.95
98.95					99		2.1	Silt stone Shale inter laminated, grey to dark grey, with carbonaceous streaks along bedding planes
	(2.6)	2.6			100			
					101			101.05
							0.20	Clay stone, Silty 101.25
	101.55						0.3	Sand, grey, coarse grained, subrounded, muddy 101.55
					102			

Form 3a

DRILL-HOLE NO UAL-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					101			101.55
101.55	(01.00) 102.55	NIL			102		1.00	CORE LOSS (Probably) Sand.
							0.10	CORE LOSS IN SAND. 102.55 102.65
102.55	(1.50) 104.05	1.40			103		1.40	Sand coarse grained grey, muddy, subrounded poorly sorted, (<1% pallets of glauconite 104.05
104.05	(01.00) 105.05	0.70			104		0.30	CORE LOSS. in SAND. 104.35
					105		0.70	SAND, grey coarse grained, subrounded to rounded dominantly quartz grains. 105.05
105.05	(0.95) 106	0.95					0.95	SAND, grey, medium grained, subrounded to rounded, dominantly quartz, clayey. 106.00
106	(2.55) 108.55	2.53			106 107 108		2.53	SAND, grey medium grained, subrounded, muddy, with carbonaceous streaks along cross bedding planes. 108.53 108.55
108.55	(0.40) 108.95	0.36					0.36	0.02 CORE LOSS SAND, grey, coarse, subrounded, well sorted, quartzitic, slightly CORE LOSS clayey. few black (Fe-Mg) minerals & glauconite pallets? 108.91 108.95
108.95	(1.40) 110.35	1.38			109 110		1.38	SAND coarse grained grey, subrounded, moderately sorted, quartzitic, slightly clayey, occasional pallets of green colour, glauconite? 110.33 110.35
								CORE LOSS IN SAND
					111			
					112			

DRILL-HOLE NO UAL-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								110.35
110.35							0.22	MUD STONE, grey, compact, highly sticky 110.57
	(1.45)	1.38			111		(1.26) 1.16	SAND, grey medium grained, subrounded, moderately sorted, quartzitic slightly clayey, few green pallets of glauconite present.
111.80								111.73
							0.07	CORE LOSS CORE LOSS 111.87
					112			SAND Same as above.
	(3.00)	2.93			113		2.93	
114.80					114			114.80
114.80							0.14	Core Loss in SAND. 114.94
	(2.65)	2.51			115			SAND, grey, medium grained, rounded well sorted, quartzitic, slightly clayey, occasional green pallets of glauconite present.
					116		2.51	
117.45					117			117.45
117.45								Core Stuck in barrel.
	(3.00)	2.85			118		2.85	
					119			
120.45					120			120.30
							0.15	MUDSTONE dark grey, Compact, marcasite present 120.45
					121			
					122			

Form 3a

DRILL-HOLE NO UAL-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								120.95
120.45							0.30	MUDSTONE. dark grey, Compact with thin laminae of carb material Pyritic & occasional thin laminae of V. fine Sand.
							0.25	SAND with thin shale band 120.75
					121			121.0
	(2.20)	2.20					1.15	SAND, grey, medium grained, Subangular to Subrounded dominantly quartz, slightly clayey lower half becomes finer, with thin laminae of shale and carbonaceous stringers along cross bedding planes.
					122			122.15
							0.38	MUDSTONE dark grey Sticky.
122.65							0.12	122.53 Silt stone shale interlaminated. 122.65
122.65								Silt stone/shale inter laminated, light to dark grey Slightly Pyritic, Pale yelloish brown nodules of Siderite.
	(1.15)	1.15			123		1.15	
123.80								123.80
123.80								Shale, Very fine Sand inter laminated, dark grey to black at places, Pyritic & Carbonaceous contains few clams, & up to 2mm Siderite? nodules 124.40
					124		0.6	
							0.5	Mud Stone dark grey to black, rooted, contains lot of Pyrite & Plant material, carbonaceous, few thin bands of coal few mm in upper 10 cms 124.90
	(3.10)	3.10			125			Silt Stone/very fine grained sand stone interlaminated with shale, light grey to grey, bioturbated contains many Siderite? nodules. Pyritic and Carbonaceous near top. fining upwards.
					126		2.0	
126.90								126.90
126.90					127			Sand stone light grey-grey, indurated, fine grained laminated with shale; contains few Siderite nodular, clayey consists dominantly of quartz grains. At places slightly carbonaceous and pyritic & occasionally bioturbated.
	(3.05)	3.05			128		3.05	
					129			
129.95								129.95
					130			
					131			
					132			

DRILL-HOLE NO UAL-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
129.95	(3.05)	2.07			131		0.98	CORE LOSS 130.93
					132		1.36	SANDSTONE SILTSTONE interbedded. light grey to grey fine to medium grained, soft, hard at places, inter bedded, bioturbated, Sideritic with v. fine carby layers. glauconitic. 132.29
							0.6	CARB CLAYSTONE / UNDER CLAY. Brownish black, coaly streaks Pyritic, Slikensided, brittle, at places plant impressions
	133				133		0.11	132.89 COAL Dull Brownish black, Dirty, Shaly, resinous, Pyritic. Gyp. vein.
133							0.26	133.0 UNDER CLAY Dark grey, Coaly laminations Pyritic, Slikensided, highly carbad
							0.47	COAL Dull brownish black Pyritic, Slightly shaly 133.26 plant imprints. UAL-4-13 (133.26-133.53) UAL-4-14 (133.53-133.73) 133.73
	(3.05)	3.05			134		0.49	Siltstone, grey to dark grey, compact, hard, sandy, traces of coal streaks, coaly towards bottom,
							0.9	Pyritic worm burrows. 134.22 clay stone light olive grey, slightly, Pyritic, Slikensided
					135		0.43	135.12 SiltStone, shaly, grey to dark grey, slightly carbonaccous hard, burrowed, Pyritic, upper 2 cms. carb shale 135.55
	136.05						0.5	CLAYSTONE olive grey, slightly Slikensided
136.05					136		0.1	136.05 CLAYSTONE. light grey, sandy, highly sticky 136.15
							0.27	SILTSTONE highly Sandy, grey, compact. 136.42
	(3.05)	3.05			137		0.68	SILTSTONE highly clayey grades downwards into mudstone light grey, compact.
							0.50	137.10 CLAYSTONE grey, compact Slikensided with few opaque white rounded grains
					138		0.62	137.60 CARB. SHALE dark grey to black, highly Pyritic at places Compressional Slikensided,
							0.36	138.22 CARB SANDSTONE dark grey to black, fine grained 138.58
	139.10				139		0.52	138.58 SAND grey fine grained, dominantly quartz grains, Subrounded sand grains. 139.10
139.10	(1.65)	0.30			140		1.35	CORE LOSS Probably Sand 140.45
	140.75						0.30	SAND, grey, fine grained, dommantly quartz, slightly clayey 140.75
					141			
					142			

DRILL-HOLE NO UAL-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								140.75
140.75							0.15	CORE LOSS 140.90
	(1.35) 142.10	1.20			141–142		1.20	SANDSTONE with carbonaceous laminations along cross bedding planes in the middle part. Grey coloured, fine grained. 142.10
142.10							0.75	CORE LOSS IN SAND 142.85
	(3.0) 145.10	2.25			143–145		2.25	SAND STONE, grey, fine grained, thin carbonaceous lamination along cross bedding plane. 145.10
145.10							2.20	SANDSTONE laminated with carbonaceous band, upper half fine grained, lower half coarse grained. Carbonaceous matter along bedding planes with few 1–2 cms thick bands of hard calcareous whitish sandstone Burrowed at top. 147.30
	148.10				148		0.80	CORE LOSS 148.10
148.10					149–152			

Form 3a

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								00
0.0m	(1.50) 1.50m	NON-CORING			1 1.5		1.5	SANDY SHALES: Yellowish brown, earthy brown, with Silica quartz grains, grains of black heavy minerals ? calcareous. Fossilliferous corals, gastropodes, bivolves, oyster, gypseous particles. 1.50
1.50m	(1.50) 3.0m				2 3.00		1.5	LIMESTONE/SANDY SHALES: yellowish brown, reddish brown, at 2.5 m colour of mud change it is reddish, maroon, sandy, green particle, glauconite? calcareous, gypseous, pink and white grains of quartz 60% limy and 40% sandy. 3.0
3.0	(1.50) 4.50				4 4.50		1.5	SANDY SHALES: Yellowish brown, earthy brown, calcareous, clayey limy particles, gypseous. Silica quartz grain of pink and white colour, green of glauconite ? few black of heavy minerals ? 80% of sand and clay. 20% limy particles 4.50
4.50	(1.50) 6.0				5 6.00		1.50	SANDY SHALES: grey, yellowish brown, not calcareous, medium sand grains with medium carby fragments at 5.5 change, gypseous. 6.0
6.0	(1.50) 7.50				6 7 7.50		1.50	SANDSTONE: Dark grey, mostly Silica quartz grains with carby fragments, green grains of glauconite, yellowish brown sandy grain, from out side not part of a sample: shaley 7.50
7.50	(1.50) 9.0				8 9.00		1.50	SILTSTONE: DK. grey, very fine grain with some carby fragments not calcareous white and pink Silica quartz grains are Subangular to angular, yellowish brown parting from upper side of hole by caving or something else. Some black grains, and green grains of glauconite, Redish particle from upper part of the hole 9.00
9.0	(1.50) 10.50				9 10 10.50		1.50	SILTY CLAY: Dark grey with some very fine Silica grains, green grains glauconite grains, also very fine black grains, Yellowish brown particle from upper part of the hole, not calcareous 10.50
10.50	(1.50) 12.00				11 12.00		1.50	SILTY SANDSTONE: Dark grey very fine to medium grain Subrounded to grain going calcareous towards bottom. Change to sandstone from 11.50. also slight clayey. few green grains glauconite and also few black grain 12.00

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								12.00
12.0	(1.50) 13.50				13		1.50	SILTY SANDSTONE : grey. fine to medium grain, calcareous few carby fragments, glauconitic, mostly Silica quartz grain. slightly clayey. 13.50
13.50	(1.50) 15.00				14		1.50	SANDSTONE : grey, fine grains, mostly Silica quartz grain Subangular to Subrounded, carby fragments clearly visible. glauconitic grains. slight calcareous. yellowish brown parting from upper part of the hole. 15.00
15.00	(1.50) 16.50				15 16		1.50	SILTY SANDSTONE : Dark grey, very fine to fine grain very slight calcareous. Silica quartz grains are very fine. very slight calcareous, glauconitic grains. slight clayey, carby fragments present. 16.50
16.50	(1.50) 18.0				17 18		1.50	SILTSTONE : Grey to Dark grey, sandy very fine grain Subrounded grain, slightly calcareous. Soft 18.00
18.0	(1.50) 19.50				19		1.50	SILTSTONE: grey to dark grey, sandy v. fine gr. sub-rounded, slightly calc., soft. 19.50
19.50	(1.50) 21.0				20 21		1.50	SANDSTONE: Dark grey, very fine U-L to fine gr. L-U, sub-angular to sub rounded, soft, loose, slightly calc. black partings at places. brown partings of clay, silty. 21.0
21.0	(1.50) 22.50				22		1.50	SANDSTONE: Same as above 22.50
22.50	(1.50) 24.0				23 24		1.50	SANDSTONE: Same as above. 24.00 SAND STONE Same as above

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								24.00
24.0	(1.50) 25.50				25		1.50	SANDSTONE: Grey to dark grey very fine to med. gr. sub-angular to sub-rounded, soft, loose, silty 25.50
25.50	(1.50) 27.0				26 27		1.50	SANDSTONE: Same as above. clayey & silty 27.0
27.0	(1.50) 28.50				28		1.50	SANDSTONE: Same as above rest of fine gr. to med gr. L-U. slightly calcareous 28.50
28.50	(1.50) 30.0				29 30		1.50	SANDSTONE: Same as above Silty. fine gr L-U 30.00
30.0	(1.50) 31.50				31		1.50	SANDSTONE: Grey, fine gr. Subrounded Silty, slightly calcareous, soft, loose. 31.50
31.50	(1.50) 33.0				32 33		1.50	SANDSTONE: Grey, fine gr. subrounded, silty slightly calcareous, soft, loose. 33.0
33.0	(1.50) 34.50				34		1.50	SANDSTONE: Same As above. 34.50
34.50	(1.50) 36.0				35 36		1.50	SANDSTONE: As above. rest of very fine L-U, fine gr, subangular to subrounded. 36.00

Form 3a

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								36.00
36.0	37.50 (1.50)				37		1.50	SANDSTONE: Grey, very fine - U. to fine U gr. subangular to rounded. soft, loose, black, partings slightly calcareous, micaceous. 37.50
37.50	39.0 (1.50)	NON-CORING			38		1.50	SANDSTONE: off white, greyish, very fine to fine grained. UfL - VFL, Subrounded to rounded, loose & friable (Sugary) black parting. calcareous. silty, clayey. micaceous. 39.00
39.0	40.50 (1.50)				39		1.50	SANDSTONE: Same as above. 40.50
40.50	42.0 (1.50)	NON-CORING			40		1.50	SANDSTONE: Same as above. 42.0
42.0	43.20 (1.20)				41		1.50	SILTY SANDSTONE: Grey, very fine to fine grain. micaceous. calcareous, very fine, carby particle, and black grains of heavy mineral 43.20
43.20	44.50 (1.30)	0.05			42		1.20	Sand stone: As above, (Core Loss) 44.45
				44.45	43		1.25	SILTY CLAYSTONE / SILTSTONE: Brown, grey, compact, laminated. Light olive grey 5Y 6/1 44.50
				44.50	44		0.20	CORE LOSS SILTY CLAYSTONE: As above (Core Loss) 44.70
44.50	45.05 (0.55)	0.35		44.70	45		0.35	SANDY CLAYSTONE interbedded, Sandstone, 1cm Thick. fine gr, Subrounded, carbonaceous traces, Pyrite. 45.05
45.05	45.75 (0.70)	0.70	100%	45.06 45.12	45		0.63	SANDY CLAYSTONE As above. 45.12 SANDY CLAYSTONE interbedded SANDSTONE & Silt. fine) med Sandstone (0.70) clay nodules, wavy to flat bedding, pyritic, burrows. Greyish black N2. 45.75
45.75	47.50 (1.75)	1.50		47.50	47		0.25	SANDY CLAYSTONE: Core loss as above. 48.00
				47.70	48		1.50	SILTY CLAYSTONE & Sandstone interbedded: Dark grey sandstone Sandstone layer about 1cm Thick. fine gr. Sandstone, Silica Sand Sugary Size. Sandstone Subrounded to Sub angular 47.50
								Sandstone and Siltstone Interbedded. Core Loss 47.70
							0.20	Siltstone & SANDSTONE interbedded. SSt Dark grey N3 ~~brown~~ Shell fragments, pyritic, Carbonaceous patches also calcareous.

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					42.70		1.00	Same as Above. 48.70
	(2.80)	2.60			49.20		0.50	SILTSTONE: olive grey: 5Y 4/1, hard, compact, calcareous. fossiliferous, carbonaceous. 49.20
					49.36		0.15	SILTSTONE & SANDSTONE interbedded: olive black, 5Y 4/1 calcareous, fossiliferous, carbonaceous bio-terbited, massive 49.35
50.30					50		0.95	SANDSTONE & SILTSTONE interbedded: olive black 5Y 2/1. very calcareous, bioterbited, massive. 50.30
50.30	(3.00)	3.00			51		1.15	MUDSTONE: 5GY 6/1. fine to medium gr, poorly sorted. very calcareous, shell fragments, forams, glauconitic 51.45
					51.46			SILTSTONE & CLAYSTONE olive black 5Y 2/1, hard, compact highly fossiliferous, , slight calcareous. 52.80 (52.86)
					52		1.35	SANDSTONE: olive black. 5Y 2/1. soft, fine to medium grained, fossiliferous, calcareous, poorly sorted, glauconitic clayey. massive 53.30
					52.80			
	53.30				53		0.50	SANDSTONE: Same as above 53.59
					53.30			
53.30					53.59		0.29	SANDSTONE: Greenish grey 5GY 6/1. hard, compact, fine to medium grains. poorly sorted, silty clayey, slightly calcareous shell fragments 54.39
	(3.00)	3.00			54		0.80	
					54.39			
					55		1.34	SANDSTONE & SILTSTONE interbedded: Greenish black 5G 2/1 fine grained, soft, semi compact, calcareous, pyritic, carbonaceous flacks. 55.73
					55.73			SANDSTONE & CLAYSTONE interbedded: olive black 5Y 2/1. fine grained sandstone slight calcareous, rare shell fragments glauconitic
	56.30				56		0.57	56.30
					56.30			
					56.34		0.04	SANDSTONE & CLAYSTONE interbedded As Above 56.34
56.30					56.89		0.55	SANDSTONE: Dark Greenish grey 5GY 4/1. soft. fine to medium grains, not calcareous, massive, subangular to sub rounded grain 56.89
	(3.00)	1.56			57		0.14	SANDSTONE: olive black 5Y 2/1, hard, compact, calcareous, plant fragments, pyritic, carbonaceous traces, shell fragments 57.03
					57.03			
					58		1.44	CORE LOSS
					58.47			58.47
					58.74		0.27	SANDSTONE: olive black 5Y 2/1. fine to med. gr. poorly sorted, soft friable, silty lamination, slightly calcareous, micaceous, subangular to subrounded, massive 58.74
	59.30				59.30		0.48	SANDSTONE: 5Y 5/2 Light, olive grey, fine to med gr. poorly sorted, silty calc subangular to subrounded. massive hard. 58.77
					60			SANDSTONE: 5B 7/1 Light bluish grey, fine to med. gr, poorly sorted, silty, calcareous subangular to subrounded, clay ripup clast, shell fragments pyrite 58.82
								SANDSTONE: 5Y 5/2 (cont'd) CONT'D

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	Loss	THICKNESS	LITHOLOGIC DESCRIPTION
				59.30	59			0.10	SANDY CLAYSTONE : interbedded : Dark grey N3 fine to med. gr, poorly sorted, silty, non calcareous, carby fragments, subangular to sub rounded 59.40
59.30	(1.85)	1.47		59.40				0.38	SANDSTONE : Core loss 59.78
				59.78				0.22	SILTY CLAY : Light bluish grey. poorly sorted, calcareous, subangular to subrounded. Calcite, hard, compact 60.00
				60.0	60			0.90	SANDSTONE & CLAYSTONE interlaminated : Dark grey. N3. fine to medium grained. poorly sorted, subangular to subrounded, soft, friable 0.04 m. hard band. Light bluish grey near the top. 60.90
				60.90					SILTY CLAYSTONE : Light bluish grey. fossiliferous, fine to med. gr, calcareous subrounded, hard, compact, shell fragments 61.15
	61.15			61.15	61			0.25	SANDSTONE : Loss 61.17
61.15	(1.35)	1.35	1.33	61.17				0.65	SANDY SILTSTONE : Greenish grey - 5GY/1. fine to med gr. poorly sorted subangular to subrounded, semi hard, semi compact, calcareous, glauconitic fossiliferous, shell fragments 61.82
				61.82	62			0.68	SILTY CLAYSTONE : olive black 5Y 2/1, semi hard, semi compact, not calcareous, slightly sandy, rare sandy patches at places are calcareous shell fragments, slight carbonaceous, pyritic, plant fragments 62.50
	62.50			62.50					
62.50	(1.80)	1.80	1.80		63			0.92	SANDY CLAYSTONE : olive black, silty, poorly sorted, subangular to subrounded sandy laminations, non calcareous, carbonaceous fragments, pyritic, plant fragments or remains, semi hard, F-M-gr. 63.42
				63.42				0.42	CLAYSTONE: Greyish black N-2, sandy at places; poorly sorted, fine gr. subrounded, pyritic, coaly. Slight carby. non calc 63.84
				63.84				0.06	SILTY SANDSTONE : Brownish black. 5Y-R/1. very fine gr to Medium grain poorly sorted, silty, clayey. non calcareous, micaceous, subangular to rounded soft, friable 63.90
				63.90	64			0.40	SANDSTONE : Med. bluish grey 5B 5/1. very fine to Medium gr. poorly sorted, silty, non calc, micaceous, subangular to rounded, massive soft, friable, thin carby laminae 64.30
64.30	(1.20)	1.20	12"		65			1.20	SANDSTONE : Greenish black, 5G 2/1. Fine to Med gr. poorly sorted, silty clayey. non calcareous, micaceous, subangular to subrounded Laminated cross bedded at places, carbon traces and pyritic at places 65.50
	65.50			65.50					
65.50	(1.30)	1.30	1.30	65.68	66			0.78	SANDSTONE : Light olive grey 5Y 5/2. Fine to Medium grained, poorly sorted silty - non calcareous - subangular to rounded, massive, hard, compact shells, bivalves, gastropods 65.58
								1.22	SANDSTONE : Dark greenish grey 5GY 4/1. Fine to Medium grain poorly sorted, silty, non calc, subangular to rounded massive to laminated carby layers, soft, friable, glauconitic 66.80
	66.80			66.85				0.05	SANDSTONE : Core Loss 66.85
66.80	(1.70)	1.70	1.65		67			0.92	SILTY SANDSTONE : olive grey. 5Y 4/1. fine to medium gr. poorly sorted. clayey, non calcareous, subrounded, massive, silt, clayey sandstone interlaminated carby fragments at places, soft to hard semi compact, shell fragments 67.77
				67.77	68			0.73	SANDY CLAYSTONE : Medium Dark grey N/4, Fine grained, poorly sorted Silty sand + clay interlaminated, non-calc at places, massive Slickensides at place, shell fragments, pyritic. 68.50
	68.50			68.58				0.08	CLAYSTONE : Medium dark grey N3, non calcareous, massive, very fine shell fragments, pyritic, very fine carb fragments 68.58
68.50	(3.0)	3.0	3.0	68.68				0.10	SANDSTONE : Medium light grey N6 - fine grained, poorly sorted, fine silty layers, interbedded with Sandstone. Calcareous, hard and compact fine shell fragments 68.68
					69			2.82	
	71.50			71.50	70				SANDY CLAYSTONE : Med. dark grey to light brown. Sandy patches, fine to Med. gr. poorly sorted, silty, slight calc at places, hard, compact shell fragments at places, fine carby fragments at places massive 71.50
					71				

Contd.

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION (contd from previous page)
	71.50				71		(2.82) contd	SANDY CLAYSTONE : Same as above. 71.50
								71.90
								SANDSTONE : olive grey 5Y 4/1. Fine to coarse grained, poorly sorted, highly calc, subangular to subrounded, massive, hard compact. Fossiliferous, calcitic grains 73.00
71.50	(3.0)	3.0	3.0	71.50 71.90	72	(B)	0.40 1.10	SILTY/CLAYEY SANDSTONE : Dark grey. fine to med. gr. poorly sorted, silty, clayey, calcareous, micaceous, subangular to subrounded massive, laminated, carby fragments, shell fragments, fossiliferous. soft, but hard at places friable to semi compact at places. 74.50
				73.00	73			SILTY CLAYEY SANDSTONE : Same as above. 75.90
	74.50			74.50	74	(B)	1.50	SANDSTONE : olive grey. fine to coarse gr poorly sorted, highly calcareous, subangular to subrounded massive hard, compact. fossiliferous with shell fragments 76.55
74.50	(3.0)	3.0	3.0	75.90	75 76	(B)	1.40 0.65	SANDY CLAYSTONE : Dark grey. Sandy patches interbedded, fine to medium grained, poorly sorted, slightly calcareous, subangular to subrounded, massive, semi hard, semi compact, shell fragments. 77.50
	77.50			76.55 77.50	77	(B)	0.95	SANDY CLAYSTONE : Silty same as above. 77.88
77.50	(2.80)	2.80	2.46	77.88		(B)	0.38	SANDSTONE : (LOSS)? 78.22
				78.22	78		0.34	SILTY/SANDY CLAYSTONE : light olive grey, interbedded silty, sandy, calcareous, subangular to subrounded
					79			
					80			— CONTD —
					1			
					2			

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								← contd from previous page 80.30
80.30	(3.0)	2.72		80.58			0.28	SANDSTONE Loss 80.58
				80.78			0.20	
				80.88	81		0.60	SILTY SANDSTONE : greenish grey. fine to med gr poorly sorted, silty, clayey, calcareous, subangular to subrounded, massive, semi hard, rich with shell fragments 80.78
				81.48	82		1.82	CARBONACEOUS SHALES : Brownish black 5Y 2/1, slight sandy, slight calcareous, 0.02 cm coaly at top semi hard, compact. pyritic, shale fragments 80.88
	83.30			83.30	83			CARBONACEOUSE SILTSTONE: Brownish black 2Y 2/1 slight sandy, very fine grain Sandstone, poorly sorted, slight calcareous, shell fragments, massive plant impression, pyritic, semi hard, compact 81.48
83.30	(3.0)	3.0			84		3.0	SILTSTONE & SANDSTONE. interbedded : Medium grey N/4. fine grain sandstone; poorly sorted Sandstone and siltstone interlaminated and interlayered, slight calcareous at places., very fine carby layer, very rare shell fragments, slight pyrite 83.39
	86.30				85			
					86			
86.30	(3.0)	3.0		87.90	87		1.60	SANDSTONE & SILTSTONE interbedded Same as above 86.30
	89.30				88		1.40	SILTSTONE & SANDSTONE: interbedded, clayey, sandy burrows at places, carby fragments, rest of as above. 87.90
					89			SANDSTONE: Olive grey 5Y 4/1, fine to medium grained poorly sorted, silty and slight clayey, not calcareous very rare shell fragments, soft, pyritic 89.30
89.30	(3.00)	2.75		89.40			0.10	SANDSTONE: Greyish black N/2. fine to medium gr. poorly sorted, slightly clayey, not calcareous micaceous, subangular to subrounded, massive, soft and friable, plant fossil petrified wood. 89.40
				89.65			0.25	SANDSTONE Core Loss 89.65
				90.0	90		1.0	SANDSTONE: Dark grey N3. fine to medium gr poorly sorted rounded to subrounded, massive, semi hard. Fossilliferous bivolves, gastropode, not calcareous 90.65
					1			
					2			

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					90			90.65
				90.65				SILTSTONE ; Grey to black N2, clayey, thinly bedded semi hard, pyritic, very thin carbonaceous layer fossiliferous.
				90.98	91		0.35	90.98
								SANDY SILTSTONE: Dark grey N3, interbedded sst. fine to medium gr. poorly sorted, clayey, not calcareous, thinly bedded. pyritic, semi hard plant remnants, more sandy towards base
	92.30				92		1.32	92.30
92.30	(1.90)	1.90						SANDY SILTSTONE : same as above
				93.83	93		1.53	93.83
	94.20				94		0.37	SANDY SILTY CLAY : Med, dark grey N4. very thin sandstone layer, fine grained poorly sorted, silty no calc, sub angular to sub rounded, massive, semi hard & compact, concoidal fracture, for the lower part 0.01cm very hard & compact Sandstone
94.20	(1.30)	1.30		94.80			0.60	94.20
	95.50				95		0.70	SANDY SILTSTONE : Med, dark grey N4, Sandstone is fine to medium gr. poorly sorted, silty. no calc, thinly bedded, semi hard, clayey nodules
				95.69			0.19	94.80
95.50	(1.42)	1.42					0.50	SANDSTONE : Med grey N5. very fine to fine grained poorly sorted, sub angular to sub rounded, silty, no calc, thinly bedded, semi hard & compact
				96.19	96			95.50
	96.92			96.56			0.37	SANDY SILTSTONE : Med, dark grey N4, Sandstone is fine grained, poorly sorted, coaly flacks, no calc, subangular to subrounded gr, Thinly bedded, semi hard & compact
				96.92			0.36	95.69
					97			SILTY CLAYSTONE : Dark grey N3. clayey, thinly bedded semi hard & compact, concoidal fracture, very thin carb, layer. no calc.
								96.19
					98			COAL: Brownish black. brittle, laminated very thin detrital material on very uneven place fusion, pyritic bands charcoal resin. upper 0.08 m. carbonaceous shale 96.56
					99			CLAYSTONE : Med grey N5, silty, no calc, massive semi hard & compact, soapy, carbonaceous roots
								96.92
					100			→ CONTD-
					1			
					2			

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					96			(contd. from prev. pg) (96.92)
	96.92			96.92				CLAYSTONE : Greyish black N2, silty, non calc, massive, semi hard & compact, carbonaceous roots. 97.17
96.92	0.33	0.33	0.31	97.17	97		0.25	
	97.25			97.25			0.08	COAL: Greyish black N2, ~~very thin~~ laminated, bandless. 97.25
97.25	(1.25)	1.30			98		1.25	SANDY CLAYSTONE : Med grey N5, silty and sandy non calcareous, massive, semi hard & compact, carbonaceous roots 98.50
	98.50							
98.50					99		0.78	SILTY CLAYSTONE : Med. grey N5, silty, non calc massive, semi hard, & compact, carbonaceous roots. 99.28
	(3.0)	3.0		99.28	100		2.22	SILTY SANDY CLAYSTONE : Light grey - N7, rooted, plants becoming more sandy at base massive 101.50
	101.50				101			
101.50							0.47	SANDY SILTSTONE : Medium grey N5 coaly specks, some coaly layer becoming more sandy at base, massive semi hard & compact, some burrows 101.97
				101.97	102			
	(3.0)	2.40					1.93	SANDSTONE : Medium grey N5. Fine to medium grained, sandstone and siltclay interbedded, cross bedding poorly sorted, non calc, subrounded, soft & friable 103.90
					103			SANDSTONE: Same as above. Loss 104.50
				103.90	104			SANDSTONE ; Same as above. Core loss 106.33
	104.50						0.60	
104.50								SANDSTONE & CLAYSTONE interbedded Med. dark grey N4, coaly stringers, flat bedded sandy and clayey, Sand medium to fine gr. poorly sorted, rounded to sub angular, soft and friable no calc 106.45
	(1.95)	1.95	0.12		105		1.83	
	106.45			106.33	106			
				106.45			0.12	
					2			

Form 3a

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DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION	
					106				106.45
106.45	(0.60) 107.05	0.60	0.05	106.45 / 106.50			0.05	SANDSTONE & CLAYSTONE : interbedded - Med, Dark grey N4, plant fragments & mineral burrows no calc, thinly bedded	106.50
					107		0.55	SANDSTONE : Same as below Core Loss	107.05
107.05	(1.40) 108.45	1.40	NIL				1.40	SANDSTONE Same as below Core Loss	108.45
					108			SANDSTONE : SILICA SAND : Med dark grey N4. fine to med gr. poorly sorted, no clac, micaceous. Subangular to subrounded, massive, soft and friable coaly fragments, sugary coarse grained at places.	
108.45	(1.05) 109.50	1.05	0.90	108.77			0.32		108.77
				108.95	109		0.18		
				109.11			0.16	CLAYSTONE : Greyish black N2, Silty no calc, massive soft, semi compact, carbonaceous roots	108.95
				109.35			0.24		
				109.50			0.15		
109.50	(1.00) 110.50	0.72	0.72	109.78			0.28	SANDSTONE 0.16 Med light grey N6 very fine to fine gr. poorly sorted, subangular to subrounded, calc, micaceous quartzitic, massive, hard, compact	109.11
				110.50	110		0.72	SANDSTONE 0.24 (Silica Sand) Same as above	109.35
								SANDSTONE 0.15 : Core loss same as above	109.50
110.50	(2.00) 112.50	1.60	1.60	110.90	111		0.40	SANDSTONE 0.28 (Silica Sand) Core loss	109.78
								SANDSTONE 0.72 : (Silica Sand) Medium dark grey N4 fine to medium gr at place coarse grained. well sorted, rounded, Glauconitic, non calc micaceous massive, soft & friable, loosely compact, coaly fragments	110.50
				112.50	112		1.60		
112.50	(0.70) 113.20	0.60	0.60	112.60 / 113.20	113		0.10 / 0.60	SANDSTONE 0.40 : Loss	110.90
113.20	(1.30) 114.50	0.73	0.73	113.77			0.57	SANDSTONE 1.60 : Same as above	112.50
					114		0.73	SANDSTONE 0.10 Loss	112.60
114.50	(1.05) 115.55	0.50	0.50	115.05	115		0.55	SANDSTONE 0.60 : Same as above	113.20
					116		0.50	SANDSTONE 0.57 : Loss	113.77
								SANDSTONE 0.73 : Same as above	114.50
								SANDSTONE 0.55 Loss	115.05
								SANDSTONE 0.50 Same as above	115.55

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								contd. from previous page
								115.55
115.55	115.55			115.55	115			SANDSTONE : Loss 116.37
115.55	(0.95) 116.50	0.13	0.13	116.37 116.50	116		0.82 / 0.13	SANDSTONE Same as above. 116.50
116.50	(1.65) 118.15	(0.30) 0.58	0.58	117.57 117.68 118.15	117		1.07 / 0.11	SANDSTONE Same as above (Loss?) 117.57
118.15	118.30	0.15	0.15	118.19 118.30	118		0.47 0.04 0.11 0.20	CARBONACEOUSE CLAYSTONE & SANDSTONE interbedded S/S Dark grey N4. Fine to coarse gr. Sub rounded to rounded thinly laminated carbonaceous, glauconitic, coaly fragments Semi hard, semi compact 117.68
20.15	(1.20) 119.50	1.20		18.50	119		1.0	SANDSTONE : Dark grey N4, Fine to course gr. Sub angular to Sub rounded, poorly sorted, silty, clayey laminated, soft, friable, carby. 118.15 0.07 Sandy clays at the bottom (included)
119.50	(1.70) 121.20	1.25		120.30 120.38 120.75	120		0.80 0.08 0.37 0.45	SANDY CLAYS : Dark grey, silty, sticky 118.19
					122			SANDSTONE : Medium light grey. Fine to medium gr. Sub angular to Sub rounded, poorly sorted, silty, soft, friable carby 118.30
					123			CARBY CLAYSTONE : Brownish black, 5YR2/1, Fine to med. gr. Subangular - Sub rounded, poorly sorted, med to hard and compact, pyritic, silty, coal fragments non calc, plant fossils 118.50
					9			SANDY CLAYSTONE : Med. bluish grey 5B 5/1, Silty Fine to med gr. Sub angular to rounded, poorly sorted hard, compact, pyritic, non calc, laminated 119.50
					0			SANDY CLAYSTONE Same as above 120.30
					1			SANDSTONE : Medium grey N/5, Fine to med gr, Sub angular to Sub rounded, poorly sorted, hard to very v.hard, well compact Silty clayey, laminations, non Calcareous 120.38
					2			SANDSTONE : Medium light grey N/6 Fine to med gr, Sub angular rounded, poorly sorted, Soft, friable, silty, non calc, micaceous pyritic 121.20
								CORE LOSS 0.35

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS
	121.20				121		
121.20	(1.30) 122.50	0.60		121.30 / 121.80 / 122.50	122		0.10 / 0.50 / 0.70
122.50	(1.50) 124.0	0.70		122.50 / 123.30 / 124.0	123 / 124		0.80 / 0.70
124.00	(1.20) 125.20	1.20	1.20	125.20	125		1.20
125.20	(1.50) 126.70	1.30		125.40 / 126.70	126		0.20 / 1.30
126.70	(1.30) 128.0	0.50		127.50 / 128.0	127 / 128		0.80 / 0.50
128.00	(1.15) 129.15	1.15		129.15	129		1.15
129.15	130.35	1.20	0.36	129.99 / 130.35	130		0.84 / 0.36

contd. from previous page

LITHOLOGIC DESCRIPTION

121.20

SANDY CLAYSTONE : Light grey. fine to med gr. sub angular to sub rounded, poorly sorted, semi hard, compact laminated, non calcareous, devoid of fossils 121.30

SANDSTONE : Light grey. fine to medium gr. sub angular to sub rounded, poorly sorted, soft, friable, massive, non calc, devoid of fossil 121.80

0.70 SANDSTONE : Same as above Loss 122.50

0.80 SANDSTONE Loss Same as above 123.30

0.70 SANDSTONE : Light grey fine to med gr, poorly sorted soft, friable, silty, non calcareous 124.00

1.20 SANDSTONE : Light grey. fine to med gr sub angular to subrounded, poorly sorted, soft, friable silty, non, calc, devoid of fossils 125.20

0.20 SANDSTONE Loss

1.30 SANDSTONE Few carby traces, coaly fragments at the bottom and rest of same as above 125.40 126.70

SANDSTONE : Same as above Loss 127.50

SANDSTONE : Same as above. 128.00

SANDSTONE : Same as above 129.15

CORE LOSS 129.99

SANDSTONE : Light grey. fine to med gr coarse at places, poorly sorted, sub angular to rounded, Silica grain, non calc, soft, friable, loose, devoid of fossils 130.35

Form 3a

DRILL-HOLE NO UAL-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Contd from previous page.
130.35	(1.15) 131.50	0.64		130.86	130		0.51	SANDSTONE: Same as above. Loss 130.86
				131.50	131		0.64	SANDSTONE: Same as above 131.50
131.50	(3.0) 134.50	1.0		133.50	132		2.00	SANDSTONE: Same as above Loss 133.50
				134.50	133			SANDSTONE: Same as above. 134.50
					134		1.0	— END —
					2			

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0 m	1.5m				1		1.5	Sandy Limestone – Greyish orange 10YR 7/4, abundant forams, shell fragments, quartz grains in Crystalline matrix, thin cover of silty surficial material of dark yellowish orange colour
1.5	3.0				2 3		1.5	Sand – Dark yellowish orange 10YR 6/6, sand grains are very fine to fine, weathered, poorly sorted, angular to subangular glauconite grains rare ?, limestone fragments, calcareous, fragments of overlying rock present.
3.0	4.5				4		1.5	Sandstone – Dark yellowish orange 10YR 6/6, Olive grey 5Y 1/6 1, very fine to medium grain or, a bit coarser, poorly sorted subangular to angular, calcareous but few are very slightly calcareous, few fragments are from overlying bed.
4.5	6.0				5 6		1.5	Clayey Sand – Moderately yellowish brown 10 Y.R 5/4. Sand grains are very fine to fine grained angular to subangular, poorly sorted, rare glauconite grains, slightly calcareous. Sand and clay ratio is 40:60%. Rare foraminifera, rare gypsum.
6.0	7.5				7		1.5	Limestone ? Dark yellowish orange 10 YR 6/6, very silty, sandy ferromagnesium grains present, very rare glauconite grains, very weathered, lithology uncertain
7.5	9.0				8 9		1.5	Sandstone – Dark yellowish orange 10 YR 6/6, very silty, very clayey, glauconite pellets, other ferromgts, gypsum flakes, gradational with above
9.0	10.5				10		1.5	Claystone – Silty, Colour pale yellowish brown 10 YR 6/2, medium hard, medium Compact breaking
10.5	12.0				11 12		1.5	Claystone Colour greyish orange to pale 5 YR 7/2, hard medium compact, non calcareous

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
12.0	13.5				12 / 13		1.5	Claystone - 40%, limestone 60%, claystone is pale yellowish brown (10YR 6/2) in colour while limestone is dark yellowish orange 10YR 6/6, ~~with~~ ~~abundant~~
13.5	15.0				14 / 15		1.5	Sandstone - Dark yellowish orange colour 10YR 6/6 very fine, fine grained, poorly sorted, subangular to subrounded, very silty, very calcareous, glauconite pellets, very weathered, and forams
15.0	16.5				16		1.5	Siltstone to very fine sandstone, siltstones pale yellowish, dark reddish brown 10R 3/4, sandstone is very fine to fine, subangular to subrounded, gypsum flakes present.
16.5	18.0				17 / 18		1.5	Siltstone / Sandstone - Siltstone, as above 20% and sandstone moderate yellowish brown 10YR 5/4, fine - very coarse, very poorly sorted, subangular - subrounded, mostly quartz, some lithic frags slightly weathered
18.0	19.5				19		1.5	Sandstone, dark yellowish orange, 10YR 6/6, very fine grained, silty some coarser grains and lithic fragments. probably from up the hole weathered.
19.5	21.0				20 / 21		1.5	Sandstone - moderately yellowish brown 10YR 5/4, as above, slightly clayey gyps - fragments, weathered Mudstone - moderately yellowish brown, 10YR 5/4
21.0	22.5				22 / 23		1.5	Siltstone - pale yellowish brown 10YR 6/2 and Sandstone dark yellowish orange 10YR 6/6 dark slightly weathered.
22.5	24.0				24			

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					24			
					25		1.5	Sandstone - moderate yellowish brown 10YR 5/4 to deep red, grey when fresh, v. fine to coarse gr, subangular to subrounded, poorly sorted, silty, clayey, weathered.
24.0	25.5							
					26		1.5	Siltstone - Pale brown 5YR 5/2 to moderate reddish brown 10R 4/6, sandy, clayey, slightly weathered.
25.5	27.0				27			
							1.5	Siltstone - as above.
					28			
27.0	28.5							
					29		1.5	Siltstone - Pale brown 5YR 5/2 to moderate reddish brown 10R 4/6, sandy, clayey, slightly weathered.
28.5	30.0				30			
					31		1.5	Siltstone - Light brownish grey 5YR 6/1 weathers light brown 5YR 6/4, gypsiferous, sandy, clayey.
30.0	31.5							
					32		1.5	Siltstone - Dark grey 3N3, sandy, sand grains are very fine to medium grained, glauconite pellets present, slightly carbonaceous, selenite crystals?
31.5	33.0				33			
							1.5	Siltstone - Light olive grey 5Y 6/1, sandy, glauconite pellets present, non-calcareous.
					34			
33.0	34.5							
					35		1.5	Siltstone - Medium dark grey N4, sandy, very fine to medium grained, rounded to sub-rounded, glauconite pellets rare, non-calcareous.
34.5	36.0				36			

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					36			Siltstone- Medium dark grey N4, sandy, very fine sand, grains are rounded to sub-rounded, calcareous, ferro-magnesium grains present, gypsum flakes present, glauconite not seen
36.0	37.5				37		1.5	
					38		1.5	Siltstone- olive grey 5Y 4/1, sandy, clayey, calcareous
37.5	39.0				39			Siltstone / Sandstone- 70 : 30 ratio
					40		1.5	Siltstone- olive grey 5Y 4/1, sandy, clayey. Sandstone- Medium dark grey N4, very fine- medium grained, poorly sorted, sub-rounded, slightly calcareous
39.0	40.5				41			Siltstone / Sandstone- 65 : 35 ratio
							1.5	Siltstone- Light olive grey 5Y 5/2, sandy, clayey. Sandstone- Light olive grey 5Y 5/2, very fine- medium grained, sub-angular to sub-rounded, calcareous, glauc- nite pellets.
40.5	42.0				42			Sandstone / siltstone- 65 : 35 ratio
					43		1.5	Sandstone- Light olive grey 5Y 5/2, fine- medium grain sub-angular to sub-rounded, poorly sorted, slightly calcareous. Siltstone- olive grey 5Y 4/1, sandy, clayey.
42.0	43.5				44			Sandstone / siltstone- 60 : 40 ratio
							1.5	Sandstone- olive grey 5Y 3/2, fine- medium grained, sub- angular to sub-rounded, poorly sorted, calcareous Siltstone- olive grey 5Y 4/1, sandy, clayey
43.5	45.0				45			Sandstone / siltstone- 65 : 35 ratio
					46		1.5	Sandstone- olive grey 5Y 3/2, fine- medium grained, sub- rounded, poorly sorted, calcareous, slightly carbonaceous Siltstone- olive grey 5Y 3/2, ferro-magnesium grains present, gypsum flakes.
45.0	46.5				47			Sandstone / siltstone- 60 : 40 ratio
							1.5	Sandstone- olive grey 5Y 4/1, fine- medium grained, sub- angular to sub-rounded, poorly sorted, slightly calcar- eous.
46.5	48.0				48			Siltstone- olive grey 5Y 4/1, sandy, seems medium hard and medium compact.

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
48.00								SILTSTONE - SANDSTONE 60:40 ratio.
							1.50	SILTSTONE - Olive gray 5Y 3/2, Sandy, Clayey, medium hard, medium compact.
					49.5			SANDSTONE - Olive grey 5Y 4/1, fine - medium grained, Subrounded to rounded, poorly sorted
	49.50							49.50
49.50								SILTSTONE - SANDSTONE 80:20 ratio.
					50		1.50	SILTSTONE - Olive grey 5Y 4/1. Sandy, slightly hard
								SANDSTONE - Olive gray 5Y 4/1, fine - med grained, Subangular to subrounded, poorly sorted. glauconite pellets present. Ferromagnesian grains present.
	51.00							51.00
51.00					51		1.50	SANDSTONE - Olive gray 5Y 4/1, very fine to medium grained, subangular to subrounded, poorly sorted, slightly calcareous, argillaceous, glauconitic, gypsum flakes present.
	52.50				52			52.50
52.50							0.50	SANDSTONE, Olive gray 5Y4/1, Very fine - fine grained, Silty Subrounded to rnd. Poorly sorted Rare glaconite
	53.00				53			53.00
53.00							0.60	CORE LOSS
								53.60
					53.60		0.40	SANDSTONE, Light olive gray, 5Y6/1, F grained, very silty/muddy. Very hard muddy matrix, Abundant glaconite pellets Abundant broken shell fragments Rare forams. Subrounded to rounded Other Dark minerals
					54			54.00
							1.55	SANDSTONE, Light olive gray, 5Y6/1 VF - F, poorly sorted, Very silty micaceous. Some carby fragments, Pyretic. Clay fragments slightly calcareous at base, A gypsum band
					55			SILTSTONE interlaminated with VF fine Sandstone, Grayish green 5G 2/1
							0.45	Sandstone, light olive gray 5Y 6/1, Micaceous, Carby specks, Sandstone Lenticular Laminated, up to 1mm thick
	56.00							
56.00					56		0.57	SILTSTONE, Med dark gray, 4N4, Medium hard, compact, Sandy, Carby flakes present. Pyrite, Marcasite, Clay lenticular.
								56.57
							0.28	SANDSTONE, Medium gray 5N5, VF-F, Subangular to subrounded sorted, Calcareous. fossils rare, Clay lenticular, silty, marcasite present.
					57			56.85
							1.78	SILTSTONE, Medium gray 5N5, Medium hard, medium compact Calcareous. Fossil fragments present, Glauconite pellets
					58			58.63
					58.63		0.37	CORE LOSS
	59.00							59.00
59.00					59.15		0.15	SANDSTONE, Med dk gray, 4N4, VF-F, well sorted, Subrnd-rnd, Silty micaceous Carby Specks seen, Medium hard, compact
					59.47		0.32	SILTSTONE, Med gray, 5N5, Sandy, Carby, fossil fragments, Marcasite Non-calcareous Medium hard compact
					59.77		0.30	SANDSTONE, Med gray 5N5, VF-F Subrnd-rnd, silty patches, glauconite pellets present. Micaceous
					60.02		0.25	SILTSTONE, Med dk gray, 4N4, hard, compact. Sandy patches. Carby flecks Pyrite grains rare
								60.02

RUN 3.00 CORE 2.40

RUN 3.00 CORE 2.63

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					60.02		0.26	SILTSTONE, Medium gray, 5N5, hard, compact, pyritic, sandy, clayey. 60.02 60.28
					60.28		0.18	SANDSTONE, dark greenish gray, 5GY4/1, VF-mg, poorly sorted, Subangular to subrounded. Compact, Calcareous, fossiliferous, glauconitic, pyritic
					60.46		0.23	SILTSTONE Sandy, Olive gray, 5Y4/1, VF-Fg, poorly sorted, Subangular to subrounded Compact, Hard, Calcareous with clayey
					60.69			broken fossil fragments.
					60.89		0.20	SANDSTONE Olive gray, 5Y4/1, VF-F grained, subrnd-rnd, rooted matrix, silty, flaser bedding, slightly calcareous, micaceous fossil fragments, pyrite grains, Carby
					61.38		0.49	SILTSTONE, Med dark gray, 5Y4, hard, compact, slightly sandy, fossil fragments, Gastropods, Carby flakes, pyrite grains flaser bedding. 61.38
					62		1.52	CORE LOSS
	62.90	RUN 3.90	CORE 2.38					62.90
62.90					63		0.10	SILTSTONE AS ABOVE SIDERITIC PATCHES
							1.30	SILTSTONE, Med dark gray, 5N5, hard, compact, flaser bedding Sandy, Clayey Sideritic nodules present. Pyrite micaceous. Slightly calcareous.
					64			
					64.30		1.10	SANDSTONE, Olive gray, 5Y4/1, VF-med gr, poorly sorted subangular to subrounded, hard compact, softer to crumbly lower part, Silty, Calcareous, fossil fragments glauconite, gastropods.
					65			CORE LOSS
					65.40		0.44	
	65.84	RUN 2.94	2.50					65.84
65.84					66		0.36	SILTSTONE, Slightly carby, olive black, 5Y2/1, med hard, med compact. Interlayered sandstone. Pyrite grains carby material present.
					66.20		0.42	SILTSTONE Med gray, 5N5 hard, compact, sandy, clayey fossil fragments. Calcareous
					66.62			
					67		0.59	CLAYSTONE, Med gr. 5N5 hard, compact, slightly calcareous pyritic, Rare fossil fragments, sandy.
					67.21		0.70	SILTSTONE. Med gray, 5N5, hard compact, clayey, pyrite grains Rare fossil fragments
					67.91			
					68		0.35	LOSS
					68.26			
	69.61	RUN 2.77	2.07				0.35	SILTSTONE AS Below - Recovered next run
68.61	0.70	0.70					0.48	SILTSTONE, Mg N5, hard compact, slightly calcareous, fossil fragments Pyritic, sideritic, glauconitic,
	69.31				69		0.30	CLAYSTONE N-3, Slightly calcareous, Sideritic
69.31					69.49		0.18	SILTSTONE, Mg N5, hard compact. fossil rare, glauconitic, Pyritic
							1.27	SANDSTONE, 5GY4/1 F-Mg, poorly sorted, angular to subrounded slightly calcareous, glauconitic, Siderite nodules present Sandstone N7 VF-Fg, sorted, subrounded to rounded hard, compact, silty, carby flakes, sideritic nodules, fossil shells
					70			SILTSTONE Ltgy N7, Clay Dkgy N5, sandy flakes, flaser bedding
					70.76		0.92	SANDSTONE, N5 F-Mg, Poorly sorted, subrounded to rounded glauconite pellets, fossiliferous, calcareous, hard and Compact
					71			
					71.68		0.16	
					71.84			
	3.05	3.05						

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	72.36				72		0.52	SANDSTONE, DK GY, F-med grained. Angular to subangular Compact, Silty, Fossiliferous
72.36				72.61			0.25	CORE LOSS
		2.21	1.96		73		1.96	SANDSTONE, Clayey, Colour N4, VF, poorly sorted, slightly calcareous. Subrounded to rounded. Carby flakes and few pyrite grains
	74.57				74			
74.57		0.84	0.84	75.17	75		0.60	SANDSTONE, as above
	75.41						0.24	Siltstone – Semy, Sandin Burrow, N4, Calcareous, hard. Rare gastropods & Pyrite.
75.41		3.05	3.05		76		2.57	Claystone – N3 slightly Calcareous, Massive, Sandy in the middle part. Laminated, Abundant Sederite nodules, Pelecypods, glauconite pellet. Gradational contact with the underlying and overlying strata.
				77.98	77			SANDSTONE Medium gray, 5N5, F-med grained. Angular to subangular, hard, compact, silty, Calcareous, fossiliferous glauconitic, with siderictic nodules
	78.46				78		0.48	
78.46								SANDSTONE, light gray, 7N7, F-mg, Subangular to subrounded silty, Calcareous, hard, Compact, Glauconite and fossil fragments fragments present.
				79.33	79		0.87	
		2.93	2.93		88		2.06	SANDSTONE, light gray 7N7 VF-F grained. Well sorted subangular to subrounded. Coarser and silty towards base soft, loose, friable, slightly calcareous
	81.39				81			
81.39								SANDSTONE, Medium gray, 5N5, F-med grained subangular, poorly sorted. soft, loose, friable
		2.10	1.70		82		1.70	
				83.09	83			
	83.49						0.40	CORE LOSS
83.49				83.79			0.30	SANDSTONE, Med-dark gray 4N4, F-Med grained Subangular to subrounded. Poorly sorted. Quartz 90% Fe-Mg grains present
					84			CORE LOSS

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					84		0.75	CORE LOSS PROBABLY SANDSTONE
	84.54	1.05	0.30					
84.54							0.40	SANDSTONE, Light gray 7N7. F-Med grained. Sbang to Sbrnd soft, loose, friable. Quartz > 90%.
		0.68	0.40	84.94				CORE LOSS PROBABLY SANDSTONE
	85.22						0.28	
85.22								SANDSTONE, Med-light gray 6N6, F-Med grained. Subrounded to rnd soft. loose, friable. Fe-Mg grains present.
		0.67	0.45	85.67			0.45	
	85.89						0.22	CORE LOSS PROBABLY SANDSTONE
85.89					86			SANDSTONE, Light gray 7N7, med to coarse grained, subangular to Subrnd. Soft, loose, friable, Carby flakes present. Fe-mg grains present. Quartz about 95%. Very rare glauconite
		1.43	1.43				1.43	
	87.32				87			
87.32							0.45	SANDSTONE, as above with few carby grains and fossil fragments
		0.62	0.45	87.77				
	87.94						0.17	CORE LOSS PROBABLY SANDSTONE
87.94					88			SANDSTONE, 7N7, med-coarse grained. Subangular to subrnd. soft, loose, friable, hard at the base. Clay patches in hard parts. Slightly calcareous. Carby material. Hard part contains calcite.
		1.55	1.50				1.50	
					89			
	89.49			89.44			0.05	CORE LOSS PROBABLY SANDSTONE
89.49				89.62			0.13	SANDSTONE, 7N7 F-Med grained Sbang-Sbrnd. upper part soft, lower hard & Calcareous
		1.15	1.10				0.47	Mudstone — N3, Silty, Clayey, soft, sandy, slightly Calcareous, shale fossils and ferro-mags. seen.
				90.09	90			
							0.50	SANDY LIMESTONE, N7, very hard, compact Med-Coarse grained fossil fragments glauconite present, Calcareous
				90.59				
	90.64						0.05	CORE LOSS PROBABLY IN SANDY LIMESTONE
90.64							0.46	SANDY LIMESTONE, as above, but highly fossiliferous at the base. Calcareous Big gravel. Glauconitic, Pyritic
				91.10	91			
		2.05	2.05				0.71	Sandstone — N4 F.g. muddy, burrows and Sederite nodules. Fossils shells, glauconite and pyrite seen.
				91.81				
					92		0.88	CLAYSTONE, N3, hard, compact. Silty, Sandy Slightly calcareous. fossil fragments present. Burrows. sederitic nodules, Pyritic, Micaceous. Sandy patches.
	92.69			92.69				
92.69								CLAYSTONE, Same as above
		1.00	1.00		93		1.00	
	93.69							
93.69					94			CLAYSTONE, N3, hard, compact, sandy in the middle, flaccer bedding Pyrite grains, burrows filled with pyrite. Plant roots. Resin present at base. It is more carbonaceous at the base
		3.05	3.05				1.65	
					95			
				95.34				
					96		1.40	Carbonaceous shale — N3, hard, compact, sandy, carby flakes and resins present. Pyrite

Form 3a

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	96.74			96.74	96		0.05	Carbonaceous shale – thinly laminated, slightly carbonaceous pyritic and resinous.
96.74				96.79	97		0.72	Claystone – N4, hard, compact, silty, flaser bedding in the lower part. Pyritic, coaly flecks present.
		3.05	3.05	97.51	98		3.48	Sandstone – muddy, N3, F.g. subangular to subrounded, sorted, silty, carbonaceous material present, flaser bedding present. Hard, compact. Pyrite and plants imprints present. Lower .60 m soft, loose and friable, slightly silty sandstone. Sederitic burrows, pyritic, micaceous and clayey towards base.
99.79	99.79				99			
		2.05	1.98	100.99	100			
	101.84			101.77	101		0.78	Shelly Mudstone – N7, sandy, F–Med. grained, hard, compact, abundant fossils shells, pyritic, burrows and sederite nodules present. Well preserved gastropods and fossils shells present.
101.84				101.84			0.07	CORE LOSS
		3.05	3.05		102		2.20	Slightly Carbonaceous. Alternate layers of sandstone and siltstone present in the lower part.
				104.04	103			
	104.89			104.54	104			Sandstone – med. dark grey, N4, VF–F g, well sorted, subrounded to rounded. Sederite and carbonaceous material present. Muddy, and fossils fragments present.
104.89				104.89			1.85	
		1.00	1.00		105			
	105.89							
105.89				106.17	106		0.28	Siltstone – N4, hard, compact, sandy, burrows, fossils and pyrite present.
				106.74			0.57	Sandstone – N4, F.g. subangular to subrounded, poorly sorted, silty, fossiliferous, calcareous, gastrods present.
		3.05	3.05		107		1.30	Siltstone – N3, hard, compact, sandy at places. Pyrite and hard fossil shells present.
					108			

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	108.94				108.94			Sandstone - N4, M - C.g, Subrounded, to rounded, poorly sorted, muddy, medium hard and compact. ferro-mags and Carby flakes present.
108.94		3.05	2.62		110		2.80	
			3.04		110.84			
	111.99				111.98		1.14	Siltstone - N4, hard, compact, sandy, burrows with sederite nodules present. Carby. flakes and Pyrite present.
111.99		1.70	1.70		112.94		0.01	CORE LOSS
	113.69				113.57		0.95	Claystone, N4, hard, compact, silty and sandy, burrows and sederite nodules present.
113.69		1.40	1.40		114		0.63	
	115.09			115.09	115.25		1.52	Sandstone - 5B7/1, M - C.g. Poorly sorted, subangular to angular, silty, burrows and Pyrite grains present. plant imprints and layers of claystone present.
115.09		0.60	0.60		115.51		0.16	Under Clay - 5B7/1 hard compact sticky, Carbonaceous in lower part
	115.69						0.26	COAL SEAM - UAL-6-1
115.69	115.96	0.27	0.27				0.45	Claystone - N4, soft, sticky, hard, compact, Carby flakes present - More Carbonaceous in the upper Part.
115.96		1.20	1.20		116		0.90	Siltstone - N6, hard, compact, sandy.
	117.16			116.86	117		0.50	Claystone - N7, hard compact and sticky, slightly Carbonaceous at places.
117.16		0.95	0.95	117.36			0.20	Silty Sandstone - N7, hard, compact, fossil fragments present
	118.11			117.56			0.20	Claystone - 5Y 4/1, hard, compact, soapy touch. carbonaceous in lower part.
118.11		0.49	0.35	117.76	118		0.70	Sandstone - N6, F.g, Subangular to subrounded, well sorted, silty at places, thin laminations of Carbonaceous material. flaser bedding. Silty in lower part.
	118.60			118.46				
118.60		0.36	0.21	118.60		X	0.14	CORE LOSS
	118.96				118.81		0.21	
118.96		1.35	1.35			X	0.15	CORE LOSS
					120			

DRILL-HOLE NO UHL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	120.31							
120.31		0.67	0.62	120.93			1.97	SANDSTONE N7, m-c.g, subrounded to rounded, sorted, soft, upper half silty.
	120.98						0.05	CORE LOSS
120.98					122			Sandstone-
		3.05	3.03				2.76	
					123			
				123.74				
	124.03			124.01			0.27	
124.03							0.02	CORE LOSS
		2.23	1.49		125		1.49	Siltstone- N4, hard, compact and sandy, Coaly flakes and Sederite nodules present. Alternate layers of Sandstone. More sandy towards base.
				125.52				
					126		0.74	CORE LOSS. PROBABLY SANDY SILTSTONE
	126.26							
126.26				126.37			0.11	
		1.00	0.11		127		0.89	CORE LOSS N4, F-mg hard at places, subrounded to rounded, sorted, soft loose and friable. Glauconite present.
	127.26							
127.26								VF-F.g at the lower part.
					128			
		2.40	2.28				2.28	Sandstone-
					129			
				129.54				
	129.66						0.12	CORE LOSS
129.66					130		0.76	
		1.41	0.76	130.42				
							0.65	CORE LOSS
	131.07							
131.07				131.38			0.31	
		2.29	2.29		132			Siltstone- N4, hard, compact, flaser bedding present and Sederite nodules seen.

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					132			More Carbonaceous towards base. Resins present.
	133.36							
133.36								Siltstone –
					134		5.03	
		3.05	3.05					
					135			
					136			
	136.41							
136.41								Dark grey, N4, silty, VF–F g. Sorted, Subrounded to rounded. Alternate layers of siltstone, flaser bedding present. Carbonaceous material, burrows, Sl. pyritic and micaceous.
					137			
		3.05	3.05					
					138			
							4.70	Sandstone –
					139			
	139.46							
139.46								
					140			
		1.81	1.65					
					141			
	141.27			141.11		X X	0.16	CORE LOSS
141.27				141.39		X X	0.12	CORE LOSS
								Carbonaceous Sandstone, N2, thin laminae of coal and alternate S.stone. More coaly in upper part.
		1.24	1.12				0.70	
				142.09				
	142.51							N5, hard, compact, roots present.
142.51								Siltstone – Carbonaceous, sandy and pyritic. Flaser bedding.
					143		1.82	
		2.62	2.12					
				143.91				
					2			SANDSTONE

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
		2.62	2.12	144.63	144		0.77	N6, F-M.g. Subrounded to rounded, sorted, soft, loose and friable. quartz abnt 90%. Ferromags ad Carbon flakes present.
	145.13				1		0.50	CORE LOSS
145.13		0.75	0.40	145.53			0.40	-- same as above - SANDSTONE
	145.88						0.35	CORE LOSS
145.88					2		1.29	
		2.47	2.47	147.17	147			
							0.59	COAL SEAM - UAL-6-2
					147.76		0.05	CLAYSTONE, GRAY, SOFT STICKY
				147.95	147.81		0.14	IMPURE COAL UAL-6-3
	148.35				148		0.29	CORE LOSS. COALY SHALE AS BELOW
					147.24		0.11	COALY SHALE
148.35				148.65			0.30	COALY SHALE UAL-6-4
		2.16	2.16		149		0.80	Carbonaceous shale - N3, hard, compact
				149.45				
	150.51				150		1.06	Slightly Carbonaceous shale - N4 hard, compact
150.51								
		1.15	0.98	151.49	151		0.98	Sandstone - N4, F-M.g, Subrounded to rounded, moderately sorted, Carbon flakes present. Silty at places. Quartz above 95%. Soft, loose and friable, More silty and more Carbonaceous. Clayey at the base.
	151.66						0.17	CORE LOSS
151.66		0.75	0.37	152.03			0.37	
	152.41						0.38	CORE LOSS
152.41				152.61			0.20	
		1.00	0.20		153		0.80	CORE LOSS
	153.41							
153.41		1.22	1.22		154		1.82	
	154.63							
154.63		0.80	0.60		155			
	155.43			155.23			0.20	CORE LOSS
155.43					156			

DRILL-HOLE NO QAL-C

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
		1.98	1.95		156		1.95	NS, M.g, Subrounded to Rounded moderately sorted, Soft and friable at places.
	157.41			157.39	157		0.02	CORE LOSS
157.41								
		2.26	2.20		158		2.20	Light gray, N7, VF-F, Subangular to Subrounded, moderately sorted. Soft and friable and silt at the base.
159.61	161.93				159			Sandstone -
	159.67			159.61			0.06	CORE LOSS
159.67		1.14	1.02		160		1.07	
	160.81			160.69			0.12	CORE LOSS
160.81					161			
		1.73	1.70				1.12	
				161.93	162		0.48	Siltstone - NS, Sandy, Pyrite present.
	162.54			162.41			0.19	COAL SEAM. CORE LOSS FROM 162.51 TO 162.54 → 0.03
162.54				162.60				Siltstone - N4, hard, Compact, more Sandy towards the base, plants roots present. Carby flakes and pyrite present
		1.87	1.87		163		1.14	
				163.74				Sandstone - N4, VF-F, angular to Subrounded, moderately Sorted, medium hard and Compact. Soft at the base.
	164.41				164		0.67	
164.41								Siltstone - N4, hard, compact and Sandy. Flaser bedding in lower half. Pyrite.
		2.50	2.28		165		1.07 1.70	
				166.11	166			
				166.69			0.58	SANDSTONE
	166.91						0.22	CORE LOSS
166.91					167			NS, VF-F, Subrounded to Rounded, Sorted, Muddy. Carby flakes, Pyrite and burrowing present.
		1.74	1.15				1.15	
					168			

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	THICKNESS	LITHOLOGIC DESCRIPTION
	168.65				168.06	0.59	CORE LOSS
168.65	169.96	1.31	1.10		169	1.10	N5, F-M g. subangular to subrounded, sorted, hard Compact. Burrows present
					169.75	0.21	CORE LOSS
169.96	171.93	1.97	0.90		2	0.90	
					170.86 / 3	1.07	CORE LOSS
171.93	173.01	1.08	1.08		172	1.08	
173.01	175.56	2.55	2.34		5 / 173.22	0.21	CORE LOSS
					174	1.79	
					175.01 / 175 / 175.16	0.15	IMPURE COAL
					175.56	0.40	Carbonaceous shale - N3, hard, Compact, Coaly
175.56	178.61	3.05	1.53		176 / 176.28	0.72	Slightly carbonaceous shale, dark gray (N3), hard compact, base more carboy
					176.52	0.24	IMPURE COAL UAL-6-5 Dark gray N3 hard,
					176.89	0.37	Carbonaceous shale - N3 Dark grey, hard, compact
					177.09	0.20	
					178	1.52 (CORE LOSS)	Sandstone - N4, F-Mg. Subrounded, sorted, upper part hard and compact. More clayey towards the base. Flacer bedding present. Quartzose and pyritic
178.61	180.06	1.45	0.97			0.48	CORE LOSS
					179.09	0.64	
					179.73	0.33	Siltstone - N7, hard, compact and sandy in the upper part. Flacer bedding; burrows & sedeute nodules present, pyritic.
180.06					2		

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
180.06		1.18	1.07		180		0.67	Claystone - N3, hard, compact and sticky, pyritic
				180.73				
				180.84			0.11	CORE LOSS
	181.24				181		0.40	COAL SEAM - UAL-6-6
181.24							0.28	CORE LOSS.
				181.52				
				181.78			0.26	Carbonaceous shale - N3, hard, compact, Roots + Pyrite crystals present
				181.90			0.12	COAL SEAM -
					182		0.40	Claystone - N7, hard, compact, Layer of Carbonaceous material present.
				182.30				
				182.43			0.13	COAL SEAM
		2.87	2.59				0.39	Carbonaceous shale - N4, hard, compact, sticky, Pyrite present.
				182.82				
				182.93			0.18	Claystone - N7, hard compact.
					183		0.78	Siltstone - N4, hard, compact and sandy. Pyritic plants imprints present.
				183.71				
	184.11				4		0.40	Sandstone - N4, F-mg, Subrounded to rounded, sorted, Muddy, hard and compact
184.11				184.24			0.13	CORE LOSS
		1.05	0.92				0.52	Slightly Carbonaceous shale - N3, hard, compact, pyritic, plant imprints present, sticky, Carby flakes present.
				184.76				
	185.16				185			
185.16							1.50	Sandstone - N4, very fine to fine, sub-rounded to rounded, sorted, muddy, medium hard,
		1.20	1.10					
					186			
	186.36			186.26			0.10	CORE LOSS Compact
186.36								
					187		4.80	
184.76	191.22	1.80	1.80					
					188			
	188.16							
188.16								
					189			
		3.00	3.00					
					190			
					1			
	191.16							
				191.22			0.06	CORE LOSS 0.06
191.16							0.22	Carbonaceous shale - N3, medium hard, compact, Carby flakes, Pyritec
				191.44				
							0.81	COAL SEAM - UAL-6-7
					192			

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
				192.25	192		0.81	COAL SEAM-UAL-6-7
		3.00	294	192.98			0.73	Claystone - N5, hard, compact, sticky, silty at places, Carby flakes present, root of plants present,
					193			Siltstone - 5B 7/1, hard, compact, sandy, pyrite grains borrows and carby flakes
194.16	194.46				194		2.81	
		3.00	3.00	195.79	195			
	197.16				196			Sandstone - N6, very fine to fine, sub-rounded, sorted, flaser bedding, alternate layers of clay & Sandstone in the upper part, Siderite bands present, slightly carbonaceous at places.
197.16								
		2.45	2.45		198		4.85	
	199.61				199			
199.61		1.25	1.03		200			
	200.86			200.64		X	0.22	CORE LOSS 200.86
					201			
					202			
					203			
					204			

Revised

Form 3a Red

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					48			Siltstone/Sandstone- 60:40 ratio Siltstone- olive grey 5Y 3/2, sandy, clayey, medium hard, medium compact
					49		1.5	Sandstone- olive grey 5Y 4/1, fine-medium grained, sub-rounded to rounded, poorly sorted.
48.0	49.5							
					50			Siltstone/Sandstone- 80:20 ratio Siltstone- olive grey 5Y 4/1, sandy, slightly hard, Sandstone- olive grey 5Y 4/1, fine-medium grained, sub-angular to sub-rounded, poorly sorted, glauconite pellets present, ferro-magnesium grains present.
49.5	51.0				51		1.5	
					52			Sandstone- olive grey 5Y 4/1, very fine to medium grained, sub-angular to sub-rounded, poorly sorted, slightly calcareous, argilaceous, glauconitic, gypsum flakes present.
51.0	52.5				53		1.5	
								Sandstone- olive grey 5Y 4/1, very fine-fine grained, sub-rounded to rounded, poorly sorted, silty, rare glauconite.
52.5	54.0				54		1.5	
					55			Sandstone- olive grey 5Y 3/2, very fine-fine grained, sub-rounded to rounded, poorly sorted, glauconite pellets present, fossils observed, slightly calcareous, silty, gypsum flakes,
54.0	55.5				56		1.5	Sandstone- olive grey 5Y 3/2, very fine-fine grained, sub-rounded to rounded, well sorted, calcareous, argilaceous.
55.5	57.0				57		1.5	Sandstone- Light olive grey 5Y 6/1, very fine to medium grained, sub-angular to sub-rounded, poorly sorted calcareous, argilaceous, gypsum flakes present
57.0	58.5				58			Siltstone/Sandstone- 75:25 ratio Siltstone- Medium dark grey 4 N4, sandy, clayey, non-calcareous, slightly hard, compact
58.5	60.0				59		1.5	Sandstone- Dark grey N3, very fine-medium grained, sub-angular to sub-rounded, poorly sorted, calcareous rare glauconite, ferro-magnesium grains present.
					60			

FAST CORE

RE DONE

Form 3a Redo

Revised

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DRILL-HOLE NO UAL-6

FAST CORE - REDONE

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					60			Siltstone — olive grey 5Y 4/1, slightly hard, slight compact, sandy, clayey, gypsum flakes present
					61		1.5	
60.0	61.5							Sandstone - olive grey 5Y 4/1, very fine - fine grained, sub-rounded to rounded, well sorted, argilaceous medium hard.
					62		1.5	
61.5	63.0				63			Sandstone - olive grey 5Y 4/1, very fine to medium grained, sub-rounded to rounded, well sorted, medium hard, argilaceous.
					64		1.5	
63.5	64.5							Sandstone - Dark grey B N3, very fine to medium grained, sub-angular to sub-rounded, poorly sorted, calcareous, soft, argilaceous, gypsum flakes present.
					65		1.5	
64.5	66.0				66			Sandstone - Medium grey H N4, fine to medium grained, sub-angular to sub-rounded, poorly sorted, soft, slightly calcareous, glauconite pallets present, ferro-magnesium grains present, Carbonaceous ?
					67		1.5	
66.0	67.5							
67.5	68.61	1.1	1.1		68		1.1	Sandstone - Medium grey B N5, very fine to fine, sub-rounded to rounded, sorted, calcareous, argilaceous, med. hard
68.61	69.31	0.70	0.70		69		0.40	Siltstone, M-g N5, hard compact slightly calcareous, Fossil fragments Pyrite, Sederite. Siltstone N3 abundant glauconite, Sederite.
							0.30	Claystone N3, slightly calcareous Sederite.
69.31				69.31				
				69.49			0.18	Siltstone M-g N5 hard compact, fossil seals, glauconitic, Pyritic
							1.27	Sandstone 5G 4/1 F-Mg poorly sorted angular to sub-rounded slightly calcareous, glauconite, Sederite nodules present. Sandstone N7 VF-Fg sorted, Subrounded to rounded, hard compact, Silty, calcy flakes, Sederite nodules, fossil shells
		3.05	3.05		70			
				70.76				
					71		0.92	Ltgy Siltstone N7 Dkgy Clay N5, Sandy flakes, flaser bedding
				71.68				Sandstone N5 F-Mg, poorly sorted, Subrounded to rounded, glauconite pellets, fossiliferous, calcareous hard and compact
				71.84			0.16	
					72			

Form 3a

Redone

DRILL-HOLE NO UAL-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Sandstone N5 F. mg. angular to subangular, Silty, Sederite nodules.
72.36	74.57				1 2		2.21	Sandstone, Clayey; N4. VF; poorly sorted, Subrounded to rounded, laminated, flaser bedding, Slightly Calcareous, gradational contact with upper rocks and sharp with lower strata. Snails with some burrows, Carby flakes and Pyrite grains present.
74.57	75.41				3		0.84	The same as above but lower .24 m silty, sandy. Sand in burrows N4, hard, Calcareous. Upper and lower Contacts sharp. Rare gastropods and Pyrite.
75.41	78.46				4 5 6		3.05	
78.46	81.39				7 8 9		2.93	
81.39	83.49				0 1		2.10	
83.49	84.54				2		1.05	

DRILL-HOLE NO UAL-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0.0m								
					1			
					2		0.47	SAND STONE Pale brown 5YR 5/2 to moderate Brown 5YR 4/4. Fine-med. grained, Subrounded slightly clayey. Lower 0.10m ferrugenous clayey dark Pred 5R 2/6 to Blackish red 5R 2/2
2.10	2.42						0.32	SILT STONE. Clayey. light bluish grey 5B 7/1 burrowed filled with sand, dominantly quartz coated with rusty brown ferrugenous material
					3		0.68	SILT STONE dark yellowish brown 10YR 6/6. Compact
3.10							0.90	SILT STONE dark yellowish brown 10YR 6/6 compact non calcareous lower part is moderate yellowish brown.
	4.00							
4.00					4		0.42	SAND STONE dark yellowish brown 10 YR 6/6 V. fine grained slightly silty. clayey at places.
							0.59	SAND STONE dark yellowish orange 10 YR 6/6 with 1-5 cms thick bands of silt stone clayey. Sand stone very fine grained Siltstone is light grey N-7.
					5		0.25	SAND STONE SAND STONE dark reddish brown 10 R 3/4. very fine grained.
							0.51	SAND STONE. dark yellowish brown 10 YR 6/6. Very fine grained with 0.5-2 cms thick bands of clayey silt stone. light grey lower 18 cms becomes ferrugenous.
	5.77							
5.77					6		0.45	SAND STONE. light yellowish brown slightly clayey and silty. dominantly quartz, with limonitic/ferrugenous coating.
							0.55	SAND STONE Very fine grained interlayered light yellowish grey (0.25-0.5) cms thick layers and yellowish orange sand. Lower half is dominantly dark yellowish orange 10 YR 6/6
							0.25	SAND very fine grained grades down to med. grained.
					7			
					8		1.75	CORE LOSS IN SAND as above. Loose. Water Loss.
	8.77							
8.77					9		0.49	"CORE LOSS IN SAND as above.
	9.50						0.24	SAND moderate yellowish brown 10YR 5/4 med. grained, sub-rounded, loose quartzitic. lower half ferrugenous.
9.50								
					0		1.45	CORE LOSS IN SAND (Loose med to Coarse with occasional small carbonaceous fragments <1 mm
					1			
	11.99				2			

Form 3a

DRILL-HOLE NO UAL-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
11.99	12.48				2		0.49	CORE LOSS IN SAND
12.48					3		2.08	CORE LOSS IN SAND Loose
	15.03				5		0.47	SAND moderate yellowish brown 10 YR 5/4, medium grained quartzitic.
15.03					6 7 8 9 0 1 2			

Form 3a

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DRILL-HOLE NO. UAL-8

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								0.0
0.0	1.5				1.5	NON CORING	1.5	SANDSTONE : Reddish brown, yellow, medium to coarse grained, ferrogeneous, consists of mostly quartz grain are angular to subangular, weathered 1.5
1.5	3.0				3.0	NON CORING	1.5	SANDSTONE : Redish brown : yellow. fine to medium grained, poorly sorted, comparatively more ferrugeneous mostly consist of quartz grain, grains are .1 to .3 mm size, angular to subanguler. Sandstone is leterite, weathered 3.0
3.0	4.50				4.50	NON CORING	1.5	SANDSTONE : Moderate yellowish brown 10YR 5/4 fine to medium grained, mostly consists of quartz grains are angular to subanguler .1 to .02 mm size grains 4.50
4.50	6.0				6.0	NON CORING	1.5	SILTSTONE : Verigated, Moderate red 5R 4/6. Yellowish gray. 5/8/1. ferrogeneous with cutting Limestone, Sandstone fine to medium grain, Gypseous weathered 6.0
6.0	7.50				7.50	NON CORING	1.5	SANDSTONE : verigated as above, light gray, reddish brown, yellowish orange. fine to med grained ferrogeneous with cutting of Siltstone, Sandstone mostly consist of quartz grains, silty gypseous angular to subangular, poorly sorted, weathered 7.50
7.50	9.0				9.0	NON CORING	1.5	SANDSTONE : Moderate yellowish brown 10YR 5/4 Medium to coarse grains, contain cutting of sandy Limestone, gypseous, Fossili ferous (Gastropode) Calcareous, forams, weathered 9.0
9.6	10.50				10.50	NON CORING	1.5	SILTY SANDSTONE : Moderate brown to yellowish brown colour 10YR 5/4. very fine gr, Siltstone comparatively more then Sandstone, Gypseous weathered 10.50
10.50	12.00				12.0	NON CORING	1.5	SANDY SILTSTONE : rest same as above, weathered 12.0

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
12.00	13.50				13 – 13.50		1.5	SANDSTONE ; Yellowish orange, medium to coarse gr. Ferrogeneous, slightly calc to calcareous, silty with same cutting of limestone, gypseous, weathered 13.50
13.50	15.00				14 – 15.0		1.5	SANDSTONE : Yellowish orange 10YR 6/6, very fine to fine gr. Sandstone, Silty, Dark yellowish orange colour, gypseous, calcareous ; weathered 15.00
15.00	16.50			16.50	15.5 – 16		1.5	SANDSTONE : Same as above 16.50
16.50	18.00			18.0	17 – 18		1.5	SANDSTONE : Light brown. 5YR 5/6, very fine to fine, silty, clayey, Sandstone not calcareous 18.00
18.00	19.50			19.50	18.5 – 19		1.5	Claystone : Dark yellowish orange 10YR 6/6 with very fine sand, silty, gypseous, slightly ferrugeneous 19.50
19.50	21.00				20 – 21		1.5	Claystone : Same as above. 21.00
21.00	22.50				22		1.5	Claystone : Same as above. 22.50
22.5	24.00				23 – 24		1.5	24.00

Form 3a

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
24.0	25.50				25		1.5	24.0 Claystone: More sandy comparative to above. rest is same as above. 25.50
25.50	27.0				25.50, 26		1.5	Claystone: Moderate yellowish brown 10YR 5/4 gypseous, slightly ferrogenous, non, calcareous with some sandstone, consists of quartz grains 27.00
27.0	28.50				27.0, 27, 28		1.5	Claystone 10YR 5/4 Same as above. 28.50
28.50	30.0				28.50, 29		1.5	SANDY LIMESTONE/SILTSTONE Moderate brown 5YR 4/4 very fine to fine grained sand, limestone cutting, calcareous claystone cutting, clay is medium gray. 5N5. Also contain medium to coarse grained grains are angular to subrounded, poorly sorted, quartz grains are pink, yellow and crystal clear. 30.00
30.0	31.5				30, 31		1.5	SILTSTONE: Medium dark grey N-4, very fine grained, soft, compact, with cutting of sandstone, ferrogenous, calcareous, clayey 31.50
31.5	33.0				31.50, 32		1.5	SILTSTONE: Same as above. 33.00
33.0	34.5				33, 34	NON-CORING	1.5	SILTSTONE: Same as above 34.50
34.5	36.0				35, 36		1.5	SILTY SANDSTONE; Medium dark grey N4 fine to coarse gr, off white, quartz gr, subrounded to subangular. also ferrugenous sandstone grains clayey. calcareous, soft, friable, few calcite grai 36.0

Lakhra FM.

Contact

Bara FM

Form 3a

DRILL-HOLE NO UAL-8

Core Recovery From	To	Core	Core%	Water Loss	Depth Metres	Graphic Log	Thickness	Lithologic Description
36.0	37.5				37, 37.50		1.5	SANDSTONE: light grey. N7. fine to medium gr. subangular to subrounded gr. slight clayey and silty, non calcareous, mostly silica quartz gr. clayey, calcareous, soft, friable, few calcite gr. 37.50
37.5	39.0				38		1.5	SILTY SANDSTONE: Medium light grey N6 fine to medium gr. subangular to subrounded gr, slight clayey, calcareous, off oolite, mostly silica quartz gr. rare calcite gr. 39.0
39.0	40.50				39, 40		1.5	SANDY SILTSTONE: Medium grey N5 very fine to fine gr. few silica quartz gr. slight clayey, very calcareous, few reddish and maroon sandy gr. may be from upper part of the hole 40.50
40.50	42.0				41		1.5	SANDY SILTSTONE: Med. dark grey N4. fine to medium gr. sandstone, few silica quartz grains. subangular to subrounded, rare gypseous particles., rare calcitic fossils frag. very calcareous 42.00
42.0	43.5				42, 43, 43.50		1.5	SANDY SILTSTONE: Med. dark gray N-4 Rest is same as above. 43.50
43.5	45.0				44		1.5	SILTSTONE/CLAYSTONE: Med. dark gray N4. very fine to fine gr. / few silica quartz gr. few gyp gr. calcareous few redish and maroon gr. few siltstone stained by red colour showing the weathering surface, slightly carbonaceous. hard and compact 45.0
45.0	46.5				45, 46		1.5	SILTSTONE/CLAYSTONE. Med. dark gray. N4 Rest is same as above. 46.5
46.5	48.0				47, 48		1.5	CLAYSTONE/SHALE Silty Med. Dark grey N-4 very fine to fine gr. few gypseous grains few gastropode, fossil, few marcasite/pyrite, glauconite claystone silty calc, carb sc. claystone showing weathering surface, iron oxide, qtz gr. orange, yellow sst cutting ferruginous 48

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
48.0	49.5				49	NON-CORING	1.5	CLAYSTONE/SHALE SILTY Med. dark gray N-4 Same as above 49.5
49.5	51.0				50	NON-CORING	1.5	CLAYSTONE/SHALE SILTY Med, Dark gray N-4. Rest is Same as above. No marcasite/pyrite grains 51.0
51.0	52.5				52	NON-CORING	1.5	MUDSTONE SILTY: Med. gray N-5 very fine to fine gr. silty sandy. Fossilliferous (gastropods) pyrite, grains, few gypsum cutting, Sandstone cutting red and orange colour; fine gr few grains of glauconite, calcareous, Hard and compact 52.50
52.50	54.0				53	NON-CORING	1.5	MUDSTONE: Med gray, N-5, Same as above 54.0
54.00	55.50				55	NON-CORING	1.5	SILTSTONE: Mudy, sandy, Med Dark gray N-4 very fine to fine gr. few red, orange and yellow cutting of Sandstone, Quartz and gypsum grain are very rare, Siltstone is calcareous glauconitic, Not fossiliferous Sandstone is Argeneous, few grain of marcasite/pyrite Slight hard and compect. 55.50
55.50	57.0				56	NON-CORING	1.5	SILTSTONE: Mudy/Sandy Med. Dark gray N-4. rest Same as above 57.0
57.0	58.50				58	NON-CORING	1.5	SANDSTONE: Light gray N-7. fine to medium grain consists of qtz grain. Subangular to subrounded very loose Sand, poorly sorted, grains are transparent to translucent, few grains are gray and yellowish in colour. few red grains, glauconite grain are very rare 58.50
					1	FORMS		
					2			

Form 3a

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION	
	58.50				58		0.05	SANDSTONE SILTSTONE INTERBEDDED light & dark gray, few glauconite grains	58.50
58.50	(0.95)	0.70			59		0.65	SANDSTONE Light gray, soft, fine to medium grained subangular to subrounded, Mostly quartz few glauconite grains.	59.20
	59.45						0.25	CORE LOSS Probably Sandstone	59.45
59.45	(1.00)	0.50			60		0.50	SANDSTONE Same as above, clayey at bottom.	59.95
	60.45						0.50	CORE LOSS Probably Sandstone	60.45
					61				
					62				

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60.45	(1.65) 62.10	0.80			61		0.85	CORE LOSS Probably Sandstone
								61.30
							0.24	SANDSTONE AND SILTY CLAYSTONE INTERBEDDED. S.ST. light gray Fine grained Mostly quartz few black grains Clay st dark gray pyritic
					62		0.56	61.54 SANDSTONE light gray, fine grained, soft Mostly quartz few black grains Subangular to subrounded, Lower two cms coaly
								62.10
62.10	(1.4) 63.50	1.40					0.07	COAL SANDY brownish black, brittle, pyritic, resinous
								62.17
							0.60	CLAYEY SILTSTONE Grayish black, compact, slightly sandy slickensided, Resinous Plant impression replaced by pyrite
					63			62.77
							0.73	SANDSTONE Dark gray N3 Fine grained, clayey, pyritic, resinous, plant impressions filled by pyrite
								63.50
63.50	(3.05) 66.55	3.05					0.75	MUDSTONE Dark gray to black, at places pyritic, compact near top, Rest is sandy.
					64			64.25
							0.25	SANDSTONE MUDDY Carbonaceous, friable, fine grained, few globules of resin, pyritic
							0.15	64.50 COAL Brownish black, brittle, pyritic, resinous, shaley,
							1.15	64.65 CARBONACEOUS SHALE Dark gray to black. Few patches of fine grains of pyrite Impressions of wood like structure filled with fine pyrite grains. Sparsely slickensided Less carbonaceous and more shaley near bottom.
					65			65.80
							0.75	MUDSTONE Sandy with laminations and pockets of fine sand Gray to dark gray, pyritic compact.
					66			66.55
66.55	(2.05) 68.60	2.05					2.05	MUDSTONE Dark gray, compact with laminations and small pockets of fine to coarse grained sand, Dominantely quartz grains, pyritic. At places slightly carbonaceous. Contains few hard nodules
					67			
					68			68.60
68.60	(1.00) 69.60	1.00					1.00	MUDSTONE Dark to dark gray, compact with laminations and pockets of sand. Sand laminations prominent in the middle. At places carbonaceous, pyritic & resinous. Slickensided at few places Contains many siderite nodules
					69			69.60
69.60								CORE LOSS
					70			CONTINUED
					71			
					72			

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							0.83	CORE LOSS
								70.43
	(3.01)	2.18			71		1.43	CLAYSTONE Silty, Olive gray, Contains scattered rounded dirty white to cream coloured 1–2 mm size grains
								71.86
					72		0.40	SHALE CARBONACEOUS Dark gray to Black, sticky, Contains few coal partings.
								72.26
							0.35	SANDSTONE, gray, fine to medium grained, Clayey.
72.61	72.61							72.61
72.61	(3.09)	1.00			73		2.09	CORE LOSS
					74			74.70
							0.20	SANDSTONE Gray, clayey, fine to medium, subangular to subrounded grains, frosted, gray, dominantly quartz grains
								74.90
					75		0.65	MUDSTONE Dark gray, Compact, Lenses/burrows filled with sand near the top, Slightly pyritic, Contains nodules of siderite
								75.60
	75.70						0.05	MUDSTONE SANDY
							0.05	CARBONACEOUS SHALE
							0.04	CLAYSTONE light gray, slickensided slightly carby.
								75.70
75.70							0.20	CLAYSTONE Gray, Carbonaceous near bottom
					76			75.90
							0.23	SHALY COAL
								76.13
	(3.02)	3.02					0.97	MUDSTONE Dark gray to Black, Carbonaceous, pyritic.
					77			77.10
							1.62	CLAYSTONE, Olive gray, Compact.
					78			78.72
78.72							0.45	CLAYSTONE SANDY with scattered white opaque rounded 1–2 mm size grains, Olive gray
					79			79.17
							0.20	CLAYSTONE LIGHT GRAY, SLICKENSIDED, CARBONISED PLANT FRAGMENTS
							0.08	CARBONACEOUS CLAYSTONE Dark gray-Black, Pyritic, Rootlets
							0.14	SHALY COAL
								79.54
	(3.08)	2.54					0.16	COAL
							0.10	CARBY SHALE
					80		0.17	COAL
							0.47	CARBY SHALE
								80.54
							0.72	CLAYSTONE
					81			SANDSTONE Fine grained
								81.26
	81.80						0.54	CORE LOSS
					82			81.80

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					81			
81.80	(3.00)	0.59			82		2.41	CORE LOSS Probably loose, friable, Sand
	84.80				83			
					84			84.21
							0.59	SANDSTONE Light gray, fine grained
								84.80
84.80	(2.9)	1.64			85		0.41	SANDSTONE, muddy at places, fine grained, medium gray, Carbonaceous at few places
								85.21
					86		1.23	SAND Light gray, fine grained, dominantly quartz grains, less than 1% dark grains mostly subangular, well sorted, slightly clayey.
								86.44
					87		1.26	CORE LOSS Probably loose Sandstone
	87.70							87.70
87.70	(1.00)	1.00			88		1.00	SAND Light gray, fine grained, slightly clayey, Mostly quartz grains, less than 1% black grains Subangular, moderately sorted
	88.70							88.70
88.70	(1.60)	1.60			89		1.60	SAND Light gray, fine grained, subangular to subrounded Mostly quartz grains, slightly clayey. Well sorted, less than 1% black grains
	90.30				90			90.30
					91			
					92			

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
90.30	(1.50) 91.80	1.20			91		1.20	SAND Light gray, fine grained, subrounded to subangular, well sorted, Quartzitic Contains few dark coloured grains — 91.50
							0.30	CORE LOSS Probably Sandstone friable — 91.80
91.80	(1.70) 93.50	1.60			92		1.30	SAND Light gray, slightly clayey. Fine grained mostly subangular, Dominantly quartz grains, well sorted, Quartzitic. Lower ten cms coaly.
					93			93.10
							0.20	COAL Brownish black, dull, few pyrite patches and few specks of resin. Few vitrain bands 2 mm thick — 93.30
							0.10	SANDSTONE Friable, muddy, light gray — 93.40
							0.18	CORE LOSS — 93.58
93.50	(1.65) 95.15	1.35			94		0.30	CORE LOSS Probably loose sandstone. — 93.80
							0.05	SHALE Light gray, sticky, Pyritic Carbonaceous at bottom — 93.85
							0.35	SHALY COAL UAL-8-1 — 94.20
							0.10	COAL UAL-8-2 — 94.30
							0.20	SHALY COAL UAL-8-3 — 94.50
							0.05	COAL UAL-8-4 — 94.55
					95		0.60	CARBONACEOUS MUDSTONE rich in plant fossils, fine pyrite grains have replaced plant matter, Dark gray to brownish gray, Carbonised plant fragments. — 95.15
95.15	(1.90) 97.05	1.90			96		1.50	SILTSTONE Gray, pyritic, fossiliferous (One 3 x 2 cms size clam) Abundant carbonised plant fragments. In the middle Siltstone mudstone interlaminated (.2 to 1.2 cms thick bands) Cyclic/rythmic banding of siltstone and mudstone. — 96.65
							0.40	SILTSTONE MUDDY Dark gray to black, slightly carbonaceous and pyritic with few lenses of fine sand — 97.05
97.05	(3.05) 100.10	3.05			97		0.50	MUDSTONE SILTY Dark gray to black, pyritic, Contains few small pockets of fine sand, slightly carbonaceous Grades into muddy Sandstone downwards — 97.55
					98		0.52	SANDSTONE muddy, light to dark gray fine sand and mud interlaminated. Sand becomes coarser in the lower 10 cms which carbonaceous with few bands of carby matter — 98.07
							0.98	SANDSTONE/MUDSTONE INTERLAMINATED Sandstone very fine to fine grained, Mudstone silty, light gray to gray coloured. Contains at few places thin laminations of carbonaceous matter and few hard siderotic nodules. — 99.05
					99		1.05	SANDSTONE MUDDY, Carbonaceous, pyritic, Dark gray coloured.. Contains few hards nodules probably siderotic.
					100			100.10
					101			
					102			

Form 3a

DRILL-HOLE NO UCAL-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
100.10					101		0.95	SAND Gray, slightly clayey, medium to coarse grained, Dominantly quartz grains. subrounded to subangular. 101.05
	(3.05)	0.95		✓	102		2.10	CORE LOSS
	103.15				103			103.15
103.15							0.90	SAND Light gray to gray, Coarse grained, subrounded Moderately sorted, quartzitic. Clayey Lower half becomes medium grained and slightly muddy 104.05
	(1.65)	0.90			104		0.75	CORE LOSS
104.80								104.80
104.80					105		0.83	CORE LOSS
	(1.40)	0.57						105.63
	106.20				106		0.57	SAND Gray, Clayey, medium grained, subrounded to subangular, Dominantly quartz grains Few Carbonaceous specks 106.20
106.20							0.06	SANDSTONE MUDDY, DOMINANTELY QUARTZ GRAINS MED. TO FINE 106.26
							0.20	CLAYSTONE BURROWS FILLED WITH SAND, DARK GRAY, PYRITIC, SLIKENSIDED 106.46
	(0.75)	0.65					0.39	CLAYSTONE Dark gray, slickensided, compact, few burrows filled with Sand Lower 5 cms pyritic, carbonaceous, Resinous 106.85
	106.95						0.10	CORE LOSS 106.95
106.95					107			CORE LOSS 0.02 PROBABLY COAL 107.97
							0.23	SHALY COAL brownish black, few patches of pyrite grains. 107.20
							0.26	UNDERCLAY Silty, pyritic, Carbonaceous, Gray, abundant Carbonised plant fragment 107.46
							0.59	SILTSTONE COALY highly pyritic, Dark gray to black 108.05
	(2.40)	2.38			108		0.84	CLAYSTONE Light gray, rooted, pyritic, pyrite Framboyds, Silty 108.89
							0.09	BONY COAL DARK GRAY TO BLACK PYRITIC 108.98
	109.35				109		0.37	UNDERCLAY brownish gray to dark gray, abundant carbonised plant fragments, slightly pyritic 109.35
109.35							1.19	CLAYSTONE Olive gray, compact, slickensided, pyritic, rooted Framboydal pyrite in lower part (rounded 1 mm size grains) becomes silty at bottom.
					110			— — — — CONTINUED — — — — — — — — — —
					111			
					112			

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							1.19	CLAYSTONE 110.54
	(3.00)	3.00			111		1.42	SANDSTONE fine grained, olive gray, Grain size increases downwards (from Siltsize to fine Sand size) Pyrite framboyds in the upper half, Slightly muddy rooted, pyritic. Carbonaceous laminations in the lower 15 cms. Friable in the lower half. 111.96
	112.35				112		0.39 0.04 0.06	SILTSTONE Gray, pyritic, Carbonized plant material CARBY SHALE DARK GRAY TO BLACK OOLITIC BONY COAL DULL BLACK SLIGHTLY PYRITIC 112.35
112.35	(1.25)	1.25			113		1.25	CARBONACEOUS SILTSTONE Dark gray to black, massive slightly pyritic, Very sparsely rooted 5 cms of Bony coal from 112.40 — 112.45 113.60
113.60	(1.95)	1.90			114		0.55	SILTSTONE, muddy, Gray to black, compact, pyritic, Few siderite bands, fine dikes. Dark gray & light yellowish brown alternate bands in the lower half. Leaf impressions filled by pyrite. 114.15
							0.69	CLAYSTONE Silty, dark gray to black, sparsely pyritic 114.84
					115		0.44	SILTSTONE Light gray, few light brownish 1 cm thick bands of siderite. 115.28
	115.55						0.22 0.05	SILTSTONE, VERY FINE SAND INTERLAMINATED LIGHT TO DARK GRAY CARBONACEOUS 115.50 CORE LOSS 115.55
115.55	(2.85)	2.74			116		0.50	SILTSTONE Light gray to gray with thin laminae and a 5 cms thick band of mudstone dark gray with light yellowish patches, Grades downwards into Sandy Siltstone 116.05
					117		2.24	SAND fine grained, gray, quartzitic, slightly clayey becomes muddy in the middle part, subrounded moderately sorted with 1 cm thick band of Carbonaceous sand about 60 cms from bottom Occassional Fe-mg mineral grains. 118.29
	118.40				118		0.11	CORE LOSS 118.40
118.40	(3.05)	3.05			119		1.74	SAND, gray medium grained, grades downwards into coarse grained quartzitic subrounded, moderately sorted slightly clayey few less than 1% Fe, Mg mineral grains black 120.14
					120		1.14	MUDSTONE, gray, compact, rarely pyritic, occassional burrows have carbonized plant fragments 121.28
	121.45				121		0.17	SANDSTONE Dark gray, Silty, Clayey, Pyritic. Plant fragments 121.45
					122			

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					121			
121.45	(3.05)	2.96			122		0.16	SAND Same as above, slightly carbonaceous 121.61
							0.74	CARBONACEOUS SAND, Dark gray to black, fine to medium grained, dominantly quartz. 122.35
					123		1.49	CLAYSTONE Sandy, light gray, compact, carbonised plant debris, rooted 123.84
124.50					124		0.17	CARBONACEOUS SHALE dull brownish black pyritic 124.01
							0.23	COAL SHALY BONY DULL BROWNISH BLACK, HIGHLY PYRITIC, BLOCKY 124.24
							0.08	CARBONACEOUS SHALE PYRITIC, BROWN TO BROWNISH BLACK 124.32
							0.09	CLAYSTONE LIGHT GRAY COMPACT SPARSELY PYRITIC ROOTED 124.41
							0.09	CORE LOSS 124.50
124.50	(3.00)	3.00			125		1.49	CLAYSTONE Olive gray, pyritic, pyrite framboyds slickensided, sparsely rooted, grades into carbonaceous
								125.99
					126		0.11	CARBONACEOUS CLAYSTONE dark grey to black highly pyritic 126.10
							0.09	BONEY COAL 126.19
							0.11	COAL 126.30
							0.03	CARBONACEOUS SHALE 126.33
							0.81	CLAYSTONE Olive grey Pyritic, compact Slickensided, lower part burrowed, filled with sand. Rooted, grades into sand downwards. 127.14
127.50					127		0.36	SAND light grey fine grained, dominantly quartz upper part muddy. 127.50
127.50	(1.35)	0.45			128		0.90	CORE LOSS 128.40
128.85							0.45	SAND grey, fine grained, Dominantly Subangular quartz grains well sorted about 2% black grains probably of carbonaceous material. 128.85
128.85	(1.75)	1.75			129		1.75	SAND light grey, fine grained dominantly subangular quartz grains. well sorted <1% black coloured Fe-mg. mineral grains.
130.60					130			130.60
					131			
					132			

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								130.60
130.60	(3.05)	3.05			131 132 133		3.05	SAND Light grey to grey, fine to medium grained. dominantly quartz grains subangular to subrounded, mostly subangular. few thin laminations of carbonaceous matter in the middle and few bands of shale in the lower part.
	133.65							133.65
133.65	(3.00)	3.00			134 135 136		2.45	SANDSTONE light grey, alternate compact and friable bands. Dominantly quartz. ≈1% black grains of carbonaceous material? mostly subangular well sorted. rare bands of carbonaceous material.
								136.10
							0.55	SILTSTONE muddy, grey, at few places pyritic, slikensided.
	136.65							136.65
136.65	(3.00)	3.00			137 138 139		3.00	SAND light grey, fine grained, subrounded, well sorted, quartzitic with <1% black coloured Fe-mg mineral grains.
	139.65							139.65
139.65					140 141 142		0.04	CORE LOSS 139.69
							0.42	SAND
								CONTINUED

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								140.11
45	(3.05)	3.01			141		1.74	SILTSTONE & CLAY STONE interlayered silt light & clay dark grey. cyclic. Upper one third part, silt 2-3 cms thick and clay 1-3 mm, In the middle part silt and clay layers become equel in thickness and in the middle part dark clay bands become closely spaced. Brown plant material appear in lower few cms. Upper 25 cms is burrowed, burrows filled with sand. 141.85
	142.70				142		0.85	CARB SHALE, dark brownish black, silty, slightly pyritic 142.70
142.70	(3.05)	2.88			143		0.20	CARBONACEOUS SANDSTONE, dark grey fine grained, rounded Pyritic 142.90
							0.17	SAND dark grey to black pyritic 143.07
							0.06	SHALY COAL Lower half COAL, dull black, blocky 143.13
							0.24	SILTSTONE, grey, muddy, rooted, slightly Pyritic, Carbonized plant matter 143.37
					144		0.63	SILTSTONE, muddy, slightly Pyritic, rooted, Plant material replaced by pyrite, thin lamination of carbonaceous material along bedding planes. turbated. 144
					145		1.58	SAND light grey fine grained, thin laminations of carbonaceous material <0.25 mm at places probably cross laminated. turbated. 145.58
	145.75					X	0.17	CORE LOSS 145.75
145.75	(3.05)	2.72			146		2.72	SAND grey, fine grained, grades downwords into med. grained. dominantly quartz, occasional <1% black Fe-mg mineral grains. muddy towords base. occasional specks of carbonaceous material. Sand grains are rounded few subrounded 148.47
	148.80				147		0.33	CORE LOSS 148.80
148.80	(3.00)	1.24			148		1.76	CORE LOSS 150.56
	151.80				149		1.24	SAND, grey, medium grained, finer towards base, rounded to subrounded moderately sorted, slightly clayey in the middle 1-2 cms band of carbonaceous sand 25 cms from top, dominantly quartz. 151.80
					150			
					151			
					152			

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					151			151.80
151.80	(3.05)	2.75			152		0.30	CORE LOSS 152.10
					153		2.75	SAND Grey fine grained, rounded to subrounded grains dominantly quartz. occasional black, Fe-mg mineral grains, slightly clayey.
	154.85				154			154.85
154.85	(3.05)	3.05			155		2.20	SAND light grey, fine grained, Subrounded to subangular well sorted, black Fe-mg mineral grains <1% grain size increases downwards from fine to coarse. Lower 10 cms, muddy =
					156			
	157.90				157		0.10	COALY SHALE, Pyritic, Slickensided, rooted, Resinous 157.05 157.15
							0.75	COAL SHALY AND COAL INTERBEDDED UAL-8-5 1 UAL-8-6 2/3 UAL-8-7 3 UAL-8-8 4 (PDC) & AGS ⇒ UAL-8-5 157.90
157.90	(3.05)	3.05			158		0.05	COAL 157.95
							0.28	CLAYSTONE dark grey to black, with a band of mudstone carbonaceous Pyritic. 158.23
							1.19	CLAYSTONE, Grey-olive grey, Pyritic, Scattered, 1-2 mm Sized rounded grains, Slickensided. Sparsely rooted.
					159			material 159.42
							0.10	SILTY CLAYSTONE, Grey. Sparsely rooted, abundent carbonized plant 159.52
							0.08	SAND lt. grey, fine grained, subangular to subrounded, carbonaceous 159.60
					160		0.70	SAND Same as above, thin partings of carbonaceous matter. 160.30
	160.95						0.27	SHALE, sandy, dark gray to black, pyritic, carbonised plant fragments COAL 160.57
							0.38	CLAYSTONE, Gray, slickensided, sparsely pyritic. 160.95
					161			
					162			

DRILL-HOLE NO UAL-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								160.95
160.95					161		0.16	CLAYSTONE Gray. 161.11
							0.36	SILTSTONE Gray, pyritic, sandy, slightly carbonaceous sparsely rooted 161.47
	(3.00)	3.00			162		2.48	SAND, light gray. Very fine grained at top, grades into medium grained at bottom. Clayey, dominantly quartz grains. Subangular to subrounded, Compact in the upper portion, loose and friable in the lower half.
163.95					163			163.95
163.95	(3.05)	3.05			164		3.05	SAND, Gray fine grained, subrounded to subangular slightly clayey, Dominantly quartz grains grades into medium grained sand at bottom.
167.00					165			
					166			
					167			167.00
167.00	(3.00)	3.00			168		3.00	SAND medium to fine grained, subrounded to subangular light gray, dominantly quartz grains, About 1% black probably carbonaceous grains.
					169			
170					170			170.00
170.00	(1.70)	1.17			171		1.17	SAND Light gray, medium to fine grained, dominantly quartz grains, subangular to subrounded. About 2% black grains, probably carbonaceous 171.17
							0.53	CORE LOSS
171.70								171.70
END					172			END

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(2.00)	2.0			1		2.0	Limestone – Pale yellow orange 10YR 8/6, Sandy, silty, hard, forams present
0 m	2.0m				2			2.00
							2.0	Limestone – Pale yellow orange 10YR 8/6, Sandy, silty, hard, forams present
2m	4m				3			
					4			4.00m
							2.0	Limestone – Very pale orange 10YR 8/2, Sandy, silty, medium hard, forams present
					5			
4m	6m				6			6m
							2.0	Limestone – Very pale orange 10YR 8/2, Sandy, soft, medium hard forams present, ferro-genous rusty brown grains present
					7			
6m	8m				8			8m
							1.4m	Limestone – Very pale orange 10YR 8/2, Sandy, soft to medium hard, fossils present, ferrogenous grains present
					9			
8m	9.4m							9.4
					0		0.6m	Shale – Moderate brown 5YR 4/4, Sandy, medium hard, sticky, gypsiferous, non-calcareous
9.4m	10m							10m
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10m	10.25				10		0.25	Shale – Same as above.
								Marly Limestone – very pale orange 10YR 8/2, soft, fossiliferous. gypsiferous.
					11		1.75	
10.25	12m				12			12.00
								Marly Limestone — Same as above
					13		2.0	
12m	14m				14			14 m
								Marly Limestone — Same as above.
					15		2.0	
14m	16m				16			16 m
								Shale – Dark yellowish orange 10YR 6/6 Moderate reddish brown 10R 4/6, Sandy, soft, gypsiferous, non-Calcareous
					17		2.0	
16m	18m				18			18m
								Shale – Moderate reddish brown 10R 4/6, to Dark reddish brown 10R 3/R, soft, Sandy, gypsiferous
					19		2.0	
18m	20m				20			20m
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								20 m
20	22				21		2.00	Shale, Moderate Reddish-brown 10R 4/6, Sandy, Soft, gypsiferous and non-calcareous.
					22			22
22	24				23		2.00	Shale, Grayish-red, 10R 4/2, clayey, soft, gypsiferous, non-calcareous, Quartz grains and ferro-mags. present.
					24			24
24	26				25		2.0	Shale, Grayish-red, 10R 4/2, soft to medium hard. Gypsiferous and non-calcareous. Quartz and ferro-mags present.
					26			26
26	28				27		2.00	Shale, Grayish-red, 10R/2, clayey, soft. Quartz and some ferromags present Gypsum increasing.
					28			28
28	30				29		2.00	Siltstone, Dark yellowish-orange, 10YR 6/6 clayey, soft, Calcareous, gypsiferous, Quartz grains seen. Rarely fossiliferous
					30			30
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					30			30
30	32				31		2.00	Siltstone lithology as above. Shale increasing. Rest of lithology as above.
	32				32			32
32	34				33		2.00	Siltstone. Shale increasing in size. Rest of lithology as above.
	34				34			34
34	36				35		2.00	Siltstone lithology as above.
	36				36			36
36m	38m				37		2.0m	Sandstone — Dark yellowish orange 10YR 6/6, medium to coarse grained, sub-angular to sub-rounded, poorly sorted, Calcareous, gypsiferous, fossiliferous, rare ferrogenous grains
					38			38.
38m	40m				39		2.0m	Sandstone — Dark yellowish orange 10YR 6/6, fine to coarse grained, sub-rounded to rounded, sorted, Calcareous, ferromagnesium grains present, very rare glauconite pellets.
					40			40
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40m	42m				40 41 42		2.0m	Sandstone - Light brown 5YR 5/6, fine grained, sub-angular to sub-rounded, sorted, slightly calcareous, weathered ferrogenous colored grains present. 42
42m	44m				42 43 44		2.0m	Sandstone - Greyish orange 10YR 7/4, fine to medium grained, sub-angular to sub-rounded, poorly sorted, Calcareous, glauconite pellets present, rare ferrogenous grains, gypsiferous 44
44m	46m				44 45 46		2.0m	Sandstone - Dark yellowish orange 10YR 6/6, fine to coarse grained, sub-angular to sub-rounded, poorly sorted, slightly calcareous, gypsum grains rare. 46
46m	48m				46 47 48		2.0m	Sandstone - Light brown 5YR 5/6, fine to medium grained sub-angular to sub-rounded, poorly sorted, slightly calcareous, gypsum and ferrogenous grains present 48
48m	50m				48 49 50		2.0m	Sandstone - Light brown 5YR 5/6, medium to coarse grained, sub-rounded to rounded, sorted, ferrogenous, non-calcareous, a few gypsum grains observed. 50

DRILL-HOLE NO/JAL-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								50
50	52				51		2.0m	Sandstone, light brown 5YR 5/6, Fine - Medium grained, Subangular to Subrounded, sorted, Calcareous, gypsiferous, Quartz grains and Rounded ferro-magnesian grains common.
					52			52
52m	54m				53		2m	Sandstone – Dark yellowish orange 10YR 6/6, very fine to fine grained, sub-angular to sub-rounded, poorly sorted, non-Calca-reous, ferromagnesium grains present, quartz percentage is above 75%.
					54			54
54m	56m				55		2.0m	Sandstone – Light brown 5YR 5/6, fine - medium grained, sub-angular to sub-rounded, poorly sorted, silty, ferromagnesium grains present, quartz is above 75%.
					56			56
56m	58m				57		2.0m	Sandstone – Light brown 5YR 5/6, fine - medium grained, sub-angular to sub-rounded, poorly sorted, silty, ferromagnesium grains present, quartz is above 75%.
					58			58
58m	60m				59		2.0m	Sandstone – Light brown 5YR 5/6, medium to coarse grained, sub-angular to sub-rounded, poorly sorted, silty, ferromagnesium grains present
					60			60
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					60			60
60m	62m				61		2.0m	Sandstone – Pale yellowish orange 10YR 8/6, fine to coarse grained, sub-angular to sub-rounded, poorly sorted, calcareous, soft, loose, friable, ferromagnesium grains present, seems to be good quality silica sand. 62
62m	64m				63		2.0m	Sandstone, Dark yellowish orange 10YR 6/6, with Moderate reddish brown 10R 4/6, Very fine to fine grained, Subrounded to rounded, poorly sorted, silty, clayey, ferro-magnesium grains present sand clay ratio 70:30 64
64m	66m				65		2.0m	Sandstone, Moderate ~~Reddish~~ brown 10 R 4/6, Very fine to fine grained, Subrounded to rounded, poorly sorted, silty, clayey, ferro-magnesium grains present Sand clay ratio 60:40 66
66m	68m				67		2.0m	Sandstone, Moderate reddish orang, 10R 4/6, very fine grained, Subrounded to rounded, sorted, clayey, silty, ferro-magnesium grains present Sand clay ratio 55:45 68
68m	70m				69		2.0m	Sandstone, Dark yellowish orange, 10YR 6/6, fine to medium grained, Subrounded to rounded, sorted, ferro-magnesium grains rare Quartz above 85% 70
					70			
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					70			70
70	72				71		2m	Sandstone, Dark yellowish orange 10YR 6/6, medium to coarse grained, Subangular to Subrounded, Poorly Sorted, Silty, Clayey, ferro-magnesium grains present. Sand clay ratio 80:20
					72			72
72	74				73		2m	Sandstone, Dark yellowish orange 10YR 6/6, Same as above. Sand clay ratio 80:20
					74			-4
74	76				75		2m	Sandstone - Dark yellowish orange 10YR 6/6, Very fine to fine grained, Subrounded to rounded, Sorted, Clayey, ferro-magnesium grains present. Sand clay ratio 60:40
					76			76
76	78				77		2m	Sandstone - Same as above.
					78			78
78	80				79		2m	Sandstone - Sand Clay ratio 50:50 Grayish orange 10YR 7/4 Very fine to fine grained, Subangular to Subrounded, Poorly Sorted, Clayey Silty, ferromagnesium grains present.
					80			80
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					80			B0
80	82				81		2m	Clay, Pale yellowish orange 10YR 8/6, Sandy silty, Sand grains are very fine to fine, ferro-magnesium grains observed. B2
82	84				82		2m	Clay, Dark yellowish orange 10YR 6/6, Sand grains are very fine, sorted, high percentage of clay, micaceous. Clay sand ratio 70:30 B4
84	86				84		2m	Clay – Moderate reddish orange 10R 6/6, Sticky, soft, slightly sandy, ferro-geneous layers at places B6
86	88				86		2m	Siltstone, Medium gray 5N5, Sandy, soft, ferro-geneous material present slightly calcareous. B8
88	90				87		2m	Siltstone, Medium dark gray N4, Clayey, soft, ferromagnesium grains present slightly calcareous. 90
					88			
					89			
					90		2m	
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					90			
					91			Siltstone, sandy. Rest of lithology is the same as above.
90	92				92		2m	92
					93			Siltstone. Lithology as above.
92	94				94		2m	94
					95			Siltstone. As above.
94	96				96		2m	96
					97			Siltstone, a little sandy. Rest of lithology is the same as above; slightly calcareous.
96	98				98		2m	98
					99			Siltstone, clayey, the rest of lithology is the same as above. Slightly calcareous.
98	100				100		2m	100
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								100
100	102				101		2m	Siltstone, continuation of the same strata as above.
								102
102	104				102 103		2m	Siltstone, as above.
								104
104	106				104 105		2m	Siltstone as above.
								106
					106 107		2m	Siltstone – Dark grey 3 N3, clayey, sandy, Sand grains are very fine to fine. Slightly calcareous.
106m	108m							108
					108 109		2.0m	Siltstone – Dark grey 3 N3, clayey, sandy, Sand grains are very fine, soft. Slightly calcareous.
108m	110m				110			110
					1 2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					110			
					111		2.0m	Siltstone – Dark grey N3, clayey, Sandy, Sand grains are very fine, Soft
								112
110m	112m				112			
								Siltstone – Dark grey N3, clayey, Sandy, Sand grains are very fine, Soft
					113		2.0m	
								114
112m	114m				114			
								Siltstone – Dark greenish grey: 5GY 4/1, clayey, Sandy, Sand grains rare, Soft
					115		2.0m	
								116
114m	116m				116			
								Siltstone, clayey and sandy. colour as above. slightly calcareous.
					117			
							2m	118
116m	118m				118			
								Silt stone: Colour dark grey, N3, soft, clayey and a little sandy. Qtz grains and some redish grains (Fendogeneous) are increases: slightly calcareous.
					119			
					120			120.
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					120			Silt stone: colour dark grey, N3, soft, clayey, and a little sandy, qtz and ferrogeneous grains are present. slightly calcareous.
120m	122m				121		2.00 meters	122
					122			Siltstone – Dark grey N3, clayey, soft, Sandy, Sand grains are very fine, quartz grains present.
122m	124m				123		2m	124
					124			Siltstone – Dark grey N3, clayey, Sandy, Sand grains are very fine, quartz grains present.
124m	126m				125		2.0m	126
					126			Siltstone – Dark grey N3, clayey, Sandy, soft, ferrogenous grains present, quartz grains present.
126m	128m				127		2.0m	128
					128			Siltstone – Dark grey N3, clayey, Sandy, Sand grains are very fine to fine, quartz grains present, soft
128m	130m				129		2.0m	130
					130			
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					130			130
					131		2.0m	Siltstone – Dark grey N3, clayey, Sandy, Sand grains are very fine, quartz grains present, soft
130m	132m				132			132
					133		2.0m	Siltstone – Dark grey N3, clayey, Sandy, quartz grains present, soft.
132m	134m				134			134
					135		2.0m	Siltstone – Dark grey N3, Clayey, Sandy, Soft, quartz grains present, ferrogenous grains present
134m	136m				136			136
					137		2.0m	Siltstone – Dark grey N3, Clayey, soft, Sandy, Sand grains are fine, ferrogenous grains present.
136m	138m				138			138
					139		2.0m	Siltstone – Dark grey N3, Clayey, Sandy, Sand grains are fine, ferrogenous grains present
138m	140m				140			140
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					140			140
					141			Silt stone:- Colour dark grey N3, soft, clayey, and a little sandy. fine Qtz grains and ferrogeneous grains are present. slightly calcareous when becomes dry.
140	142	m			142		2 m	142
					143			Siltstone, more sandy, colour dark gray, N3, less clayey, Quartz grains and ferromags. seen.
142	144						2 m	144
					144			Silt stone:- colour medium grey N5, clayey and sandy.
					145			Sand is increasing. fossiliferous, fossils fragments are abundant.
							2 m	some green stuff is also present:
144	146				146			146
								Siltstone as above:
					147			
146	148						2m	148
					148			silt stone:. colour medium grey, N5,
					149			soft, clayey, and slightly sandy. Fine grained qtz and some ferrugeneous grains are present. Fossils are also present.
148	150							Slightly calcareous when becomes dry:
					150		2m	150
					1			
					2			

CORING from 150 m.

DRILL-HOLE NO UAL-9

Run 1.80 (150–151.80)
151.80
RUN (3.05) C.R. 3.05 (151.80–154.85)
154.85
Run (3.05) C.R. 3.05 (154.85–157.90)
157.90
Run (3.05) C.R. 3.05 (157.90–)
Contd

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
150–151.16	(1.80)	1.80	100%		150–151		1.80m	~~Silt Stone~~ Sandstone – Medium grey N5, subangular to sub rounded, dotted flaser bedding, alternate layers of silt stone, sand stone, clay stone, Hard, compact, borrows, and siderite nodules present. pyrite is also present. 150 – 151.16
151.16–151.80							0.64m	SAND STONE: Medium dark grey N4, very fine to fine grained, angular to sub angular, sorted, ferrugeneous grains are dense: 151.80
151.80–153.20		3.0	100%		152–153		1.40m	SAND STONE:- Medium light grey N6, fine to coarse grains, sub angular to sub rounded, poorly sorted, soft, loose and friable: 153.20
153.20–154.58					154		1.38m	clay Stone:- Dark grey N3, very sandy, sand grains very fine to fine, sub angular to sub rounded, sorted, hard, compact, borrows present, siderite nodules present, pyritic, carbonaceous, and resineous. 154.58
154.58–154.85							.27m	silt stone: olive grey, 5Y4/1, hard, compact, fossilifereous, carby specks present. 154.85
154.85–156.32					155–156		1.47m	silt stone:- Medium dark grey N4, hard, compact, sandy, pyritic, resin present, carbonaceous specks present, Highly pyritic towards base, borrows present, plant imprints present, and becomes coally in the lower part. 156.32
156.32–156.79					UAL-9-1		0.47m	COAL: Brownish black, with low specific gravity, banded, pyritic, highly resinous, Homogeneous layers of coal sampled in two bags. 156.79
156.79–156.93							0.14m	Silt Stone: Medium light grey N6, hard, compact, carby, coaly flakes present, pyritic and plant imprints also present. 156.93
156.93–157.90					157		0.97m	SAND STONE:- Medium light grey N6, to medium grey N5, v. fine to fine grained, sub rounded to rounded, well sorted, flaser bedding present, clay, silty and borrows present. 157.90
157.90–158.00							0.10	Silt stone: Medium dark grey N4, hard, compact, sandy, carby specks present. 158
158.00–159.65 m					158–159		1.65m	SAND STONE: Light grey N7, very fine grained to fine grained, sub rounded to rounded, well sorted, carby flacks, flaser bedding, and pyritic: 159.65
159.65–159.91					160		0.26m	Carbonaceous shale: Brownish black 5YR 2/1, ~~laminated~~, silty, resins abundant, plants and roots remains present, pyritic. 159.91

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION (contd)
								159.91
159.91	160.95				160		1.04	Siltstone = Medium grey N5, hard, compact, carby flakes, resinous, pyritic, sandy, plant and root remains are present. Gypsum rare. Much carbonaceous at base. 160.95
160.95	162.09				161		1.14	Claystone - Medium Light grey N6, hard, compact, highly pyritic, carby flakes, sederite nodules present. Sandy at places. Resins rare. Becomes shaly towards base. 162.09
162.09	162.99				162		0.90	COAL SEAM = 162.09 - 162.19 = 0.10m = Brownish black, high SP. Gravity banded, sandy patches, pyritic, and resineous; 162.19 - 162.99 = 0.80m Brownish black, low SP. Gravity, banded, pyritic and resineous. Lower 0.17m is flaky, soft and brittle. 162.99
162.99	163.02						0.03	Carbonaceous Shale = Black N2, laminated, fractured, pyritic, resinous. 163.02
163.02	164.0				163		0.98	Claystone = Medium Light grey N6, hard, compact, carby flakes, pyritic, sandy patches at places. plants remains seen. 164.0
164.0	165.17				164		1.17	Siltstone - Medium light grey N6, clayey, sandy, plants remains rare, carby specks seen. 165.17
165.17	166.25				165		1.08	Claystone - Medium light grey N6, hard, compact, carby, flaks, pyritic & slikensided. 166.25
166.25	166.52				166		0.27	Highly Carbonaceous shale / COAL SEAM = 0.10m highly carby shale = 0.11m coal, banded, low SP. Gravity = 0.06m highly carbonaceous shale. 166.25
166.52	166.90						0.38	Claystone - Medium light grey N6, pyritic, carby, slickensided hard and compact. 166.90
166.90	167.88				167		0.98	Siltstone - Light grey N7, sandy, clayey, hard, compact, carby flakes rare. 167.88
167.88	168.58				168		0.70	Claystone - Light grey N7, hard, compact, slikensided. 168.58
168.58	169.95	1.37	100%		169		1.37	Siltstone - Light grey N7, hard, compact, carby flaks present, sandy at places. 169.95

Run 1 (3.05) CR. 3.05

Run 2 (2.90) CR. 2.90

Run 3 (3.05) 3.05

169.95

1.87

0

1

2

170.45
169.95
.50

Form 3a

DRILL-HOLE NO UAL-9

Run (margin)	FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
169.95								0.50	siltstone as above 169.95
170.45	169.58	170.60						0.15	Highly Carbonaceous shale - Brownish black 5YR 2/1, Laminated, coaly, trace
RUN (3.05) CR 3.05	170.60	171.12			UAL-9-3	171		0.52	COAL SEAM = 0.18m coal = Greysh black, low sp. gravity, non banded, Pyritic, resinous. 0.34 - coal - Greysh black N2, with low sp-gravity, soft, brittle, Pyritic, resinous. 171.12 Lower 0.55 m. is the same but compact. 171.12
	171.12	171.24						0.12	Carbonaceous Shale = coaly, brownish black 5YR 2/1, fractured, pyritic, silty. 171.24
	171.24	172.01						0.77	Claystone - Medium light grey N6, hard, compact, carby flakes abundant, pyritic, tiny clay bands: plants remains present. 172.01
	172.01	172.09				172		0.08	COAL SEAM = Brownish black, low sp-gravity, banded & brittle.
	172.09	172.38						0.29	172.09 Carbonaceous Shale - coaly in the upper part, resinous, plant remains, pyritic 172.38
	172.38	172.72						0.34	Siltstone - Medium light grey N7, hard, compact, carby flakes, pyritic, plant remains present. 172.72 172.72
173								0.28	Sandstone - v.f. grained, subrounded to rounded, sorted, silty, burrowed, plant remains present, very rare ferro-mag. seen. 173.00
RUN		(2.40)	1.64			173 / 174		1.64	Sandstone = colour medium light grey N7, from fine to medium grained, subrounded to rounded, sorted, soft and friable. Qtz grains abundant, carbonaceous flakes present. 174.64
175.40		175.40				175		0.76 / 2.73	Core loss at the bottom - sst
RUN 76.05		(0.65)	0.65					0.65	175.40 Sandstone, medium light grey, N 7, v.f - F. grained, rounded to subrounded, sorted, soft, friable - quartz grains above 97 %. Rare ferromags are present. 176.05
RUN		(1.58)	1.50			176 / 177		1.50	Sandstone as above.
177.63								0.08	CORE LOSS 177.63
RUN.		(1.42)	1.40			178		1.40	sst. light grey. N7 - F-med. grained subrounded to rounded, sorted. Quartz grains above 98 % Rare ferromagnesium
179.05						179			CORE LOSS 0.02 179.05
RUN.		(1.00)	0.95					0.95	Sandstone, med. light grey N7. F - med. grained, subrounded to rounded, sorted. Quartzose - Quartz grains above 98 %. Rare ferromags. present. Carby flakes present but not common.
180.05	172.72	185.45				180		0.05	LOSS 180.05
?						1			
						2			

DRILL-HOLE NO UAL-9

Run (margin)	FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION	Depth to base
180.05 – 182.00 Run		(1.95)	1.90			180–182		1.90	Sandstone - Medium light grey N7, fine to medium grained, sub-rounded to rounded, sorted, soft, friable (same as above)	182.00
									5 cm loss	
182.00 – 184.0 Run		(2.00)	1.40			182–183		(12.73)? 1.40	Sandstone - very light grey N8, very fine to fine grained, subangular to sub rounded, sorted, rare ferromagnesian grains, seems good quality silica sand.	183.40
						184		0.60	Core Loss. In Sandstone.	184.0
184.0 – 185.0 Run		(1.0)	(0.90)			184		0.90	Sandstone - very light grey N8, med. to coarse grained, subrounded to rounded, sorted, rare ferromagnesian grains, good quality silica sand.	184.90
						185		0.10	Core Loss in Sandstone.	185.00
185.0 – 186.30 Run (1.30) 0.90	172.72?	185.45						0.40	core loss in sst.	185.40
								0.05	sst as above	185.45
	185.45	186.30				186		0.85	Siltstone = Light bluish grey 5B 7/13, sandy, sand grains are medium to coarse grained, hard, compact, and pyritic.	186.30
186.30 – 188.0 (1.70) CR = 1.65	186.30	186.40						0.10	CLAYSTONE - Light bluish grey 5B 7/1, hard, compact and pyritic.	186.40
	186.40	186.55						0.15	Carbonaceous shale - Dark grey N3, coaly specks, pyritic, hard & compact.	
	186.55	186.95				UAL 9-4		0.40	COAL SEAM - Bag No-I = 0.22 m - Brownish black 5YR 2/1, nonbanded, soft, brittle, pyritic. Bag No-II = 0.18 m coal - the same, but bony, compact & pyritic	
	186.95	187.15				187		0.20	Siltstone - Medium dark grey, hard, compact, burrows filled with pyrite, coaly flakes.	
	187.15	187.75						0.60	Sandstone - Light grey N6?, v. fine to fine grained, subrounded to rounded, matrix is silty, ferruginous grains present.	
	187.75	188.00						0.20	Claystone - Light bluish grey 5B 7/1, hard, compact, sticky etc.	
									5 cm loss	
188.0 – 190 (3.0) CR = 3.0	188.00	190		100%		188–190		3.0	Siltstone = Light bluish grey 5B 7/1, hard, compact, clayey in middle but becomes sandy towards lower part. Pyritic grains present.	190.0

cont'd next page

Form 3a

-149-

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					190			Siltstone = Same as above
								191.0
	(3.00)	3.00			192		3.0	Siltstone, light bluish grey 5 B 7/1, hard, compact, sandy, sand grains are mostly coarse, become very sandy near bottom, coaly specks & flakes present in lower part
188.00	194.00				193			194.00 m
	(1.85)	1.85			194			Sandstone = Very light grey N8, to light grey N7, very fine to fine grained, sub-angular to sub rounded, sorted, Siderite nodules present. coaly Specks in upp part, mostly soft, loose, friable at places. Harder, clayey and silty at places.
					195		1.85	195.85
	(3.05)	CL. 3.0			196			
					197		3.0	
					198			198.85
								core loss
							0.05	198.90
	(1.20)	1-10			199		1.10	Sandstone light grey N/7 - V. fine to fine grained, sub rounded to rounded. silty sandstone layer of 10cm present in the sandstone. Lower sst. is medium to coarse grained, soft., loose, friable.
194.0	204.35				200		0.10	200.00 CORE LOSS in sst. 202.10
					1			
					2			

Form 3a

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					200			Core loss 200 200.10
	(2.35)	2.35			201		2.35	Sandstone – light grey N7, Med.-coarse grained, subrounded to rounded, sorted, loose and friable, Quartz grain above 98%, very rare ferromg. present –
					202			202.45
					203		1.90	Sandstone – light grey N7 medium to coarse grained – subrounded to rounded, poorly sorted, soft, loose, & friable, Mostly qtz grains. Ferromagnesium are very rare.
194.00	204.35				204			204.35 present
204.35	204.50						0.15	Highly Carbonaceous Shale – Grey black N2, soft, pyritic, roots & plant remains
204.50	205.20				205		0.70	Claystone – Medium to light grey N6 – Medium dark grey N4, carbonaceous in the middle, slikensided, plants and roots remains are present 204.50 205.20
					206		2.30	Underclay – Medium light grey N6, sandy, hard, compact, pyritic, plants & roots remains present carby flakes present.
					207			207.50 207.50
					208		0.75	Carbonaceous shale – Dark grey N3, thinly laminated, more coaly in upper part, pyritic, resinous, plant and root imprints present 208.25 208.25
207.50	208.55						0.30	Carbonaceous Shale = Dark grey N3. Highly carbonaceous shale, coaly pyritic, resinous, rooted. 208.55
208.55	209.25				209		0.7	Underclay – Light grey N7, hard, compact, pyritic, plant roots present, carby flakes present. 209.25 209.25
209.25	210.00				210		0.75	Sandstone – light grey N7, fine to med grained, sub-rounded to rounded, sorted. CONTD – 210.00

CONTD –

Run 209.25-212.30 cd = 2.42 ?

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
contd 210m					210		0.25	Contd = Sandstone - same as above. 210.25
209.25	210.25							
10.25	(0.63)	00					0.63	CORE LOSS 210.88
210.25	210.88				211			Under clay - Light grey N7, hard, Compact, pyritic, plant roots present, carby flakes present.
10.88	(1.42)	?					1.42	
					212			212.30
0.50	(0.50)	0.50					0.50	(same as above) 212.80
210.88	212.30							
2.80					213			Carbonaceous Shale - Dark grey N3, med hard, compact, Coaly flakes present, pyritic, plant imprints present
	(1.45)	1.45					1.45	
4.25					214			214.25
212.80	214.25							214.65
14.65							0.40	214.65 Under Clay - Light grey N7, hard, compact, pyritic, plant roots present
	(1.35)	1.35			215		1.35	
								216.0
16					216			underclay - same as above
(2.40) 2.40							0.95	216.95
214.25	216.95				217			Sandstone - Light grey N7, medium to coarse grained, sub angular to sub rounded, well sorted, friable, and loose. Mostly quartz grain
							1.45	
218.40					218			218.40
	(3.40)	3.0						Sandstone - same as above.
					219			
220								220
216.95	224.6				220			contd
contd								
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					220			Sandstone- Same as above.
					221			221.40 221.40
	(3.m)	3.0			222		3.0	
					223			
					224			224.40 224.40
21695	22440				225		1.6	Siltstone- Medium dark grey N4, hard, compact, borrows present, pyritic, Carby flakes present, carby in places.
22440	2260				226			226.0
	?						1.60	(Under Clay) / Claystone- Light grey N7, hard, compact, pyritic, plant roots present, Carby flakes present
22740	22760				227			227.40 227.60
22760	22880						0.20	227.6. Same as above
							0.40	Shaly Coal- Greyish black N2, soft, thinly laminated pyritic CARB'SH rooted, plant debris 228.0
22880	22900				228		1.0	Under Clay- Light grey N7, hard, compact, pyritic, CLAYSTONE roots present, flakes present
22900	22900							229.0
22900	23500				229		1.40	Sandstone- Light grey N7, medium to coarse grained, soft, friable, loose, well sorted, subrounded to rounded. MOSTLY QTZ
23000					230			
					1			
					2			

DRILL-HOLE NO UAL-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					230			230.0 230.40 Sandstone - Light grey N7, medium to coarse grained, ~~subrounded to rounded~~, well sorted, ~~soft, loose, friable~~, pyritic, Carby flakes ~~at places~~
	(2.85)	2.85			231			
					232		2.85	Rooted, pyritic, plant impressions A few carb flakes
					233			233.25
	(1.85)	0.90			234		0.90	Sandstone - same as above
229.2					235		0.95	CORE LOSS 235.10
					236			
					237			
					238			
					239			
					240			
					1			
					2			

Form 3a

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DRILL-HOLE NO UAL-13

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0.0	2.00	2.0	NON-CORING		0–2		2.0	LIMESTONE : Limestone 80% Pinkish Gray 5YR 8/1, mostly fossils (forams) sand 20% Yellowish Gray 5Y 7/2 medium grained, subrounded loose, friable, mainly quartz, sandy material may be from overburden. 2.00
2.00	4.00	2.0	NON-CORING		2–4		2.0	LIMESTONE : Same as above 4.00
4.00	6.00	2.0	NON-CORING		4–6		2.0	LIMESTONE : Limestone 90% Pinkish Gray 5YR 8/1, Sandy mostly fossils (forams) sand 10% rest as above. 6.00
6.00	8.00	2.0	NON-CORING		6–8		2.0	LIMESTONE : Limestone : Pinkish Gray 5YR 8/1, Sandy, chalky fossiliferous forams, soft 8.00
8.00					8–9		1.0	Limestone : Sandy, chalky foramn same as above
	10.00				9–10		1.0	SHALES : Greyish orange 10YR 7/4, silty and sandy towards top and percentage of silt and sand is decreasing towards base and has become clayey, gypseous, slightly ferruginous. Calcareous, forams 10.00
					10–12			

LAKI LIMESTONE (EOCENE)

METING SHALE

DRILL-HOLE NO WAL-13

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10.0	12.0	Non coring			11		2.0 m	SHALES: Same as above. 12.00
12.0					12		1.50 m	SHALES: Greyish orange, 10YR 7/4 silty & slightly sandy, gypsums, ~~fossiliferous~~, glauconitic grains at places, calc. clayey, weathered.
	14.0				13		0.5	SILTSTONE, Greyish orange, 10YR 7/4, Gypsiferous, shell partings, few pink grains of feldspar, slightly sandy and clayey, non-calc. 14.00
14.0	16.0	NON-CORING			14 15		2.0	SILTSTONE, Med light gray N6, pyritic, carbonaceous, plant prints, Glauconite, Gypsiferous, non-cal. 16.00
16.0	18.0	NON-CORING			16 17		2.0	LIMESTONE, Very pale orange, 10YR 8/2, Chalky, highly fossiliferous, foramns, etc. 18.00
18.0	20.0	NON-CORING			18 19 20		2.0	LIMESTONE: Same as above. 20.00

METING LIMESTONE

METING SHALE

DRILL-HOLE NO UAL-13

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20.0	22.0				21		2.0	LIMESTONE : Same as above. 22.00
22.0	24.0	NON-CORING			22		0.75	SILTSTONE: Pale yellowish orange 10YR 8/6 slight sandy very fine siltstone. Gray in bottom Ripples and borings?
					2285		0.15	
					23		1.0	LIMESTONE : Same as above. 24.00
24.0	26.0				24		2.0	LIMESTONE, Pale yellowish orange 10YR 8/6 marly, sandy 26.00
					25			
26.0	28.0				26		2.0	Limestone: very pale orange 10YR 8/2, marly & sandy. 28.00
					27			
28.0		Non-Cores			28			Limestone: Same as above. 30.0
					29			
					30			
					1			
					2			

DRILL-HOLE NO UAL-13

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								30.00
30.0	32.0				31, 32			Limestone :- As above 32.00
32.0	34.0				33, 34			Limestone :- As above 34.00
34.0	36.0	NON-CORING			35, 36			Limestone, very pale orange 10YR 8/2, fossiliferous, sandy, slightly weathered 36.00
36.0	38.0				37, 38			Limestone, 10YR 8/2, rare fossils, muddy. 38.00
38.0	40.0				39, 40			Limestone, as above. 40.00
					1, 2			

DRILL-HOLE NO UAL-13

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40.0					41			Limestone, yell. gray 5Y 8/1, muddy, clayey, fossil.
	42.0				42			42.00
42.0					43			Limestone, v. pale orange 10YR 8/2, muddy, fossiliferous, forams, shells. Light olive gray 5Y 5/2, fine sandy partings, forams, showing high energy tide, weathered specks at places. fossils, forams, nodular at places.
	44.0				44			44.00.
44.0		NON-CORING			45			Limestone, as above
	46.0				46			46.00
46.0					47			Limestone, L. olive gray 5Y 6/1, richly fossiliferous, black specks, yellowish gray 5Y 7/2, fossil % age reduces towards base, muddy, nodular.
	48.0				48			48.00
48.0					49			Limestone, Y. gray 5Y 7/2, sandy, clayey, black carbonaceous specks, clayey, highly fossiliferous, slightly cal, nodular.
	50.0				50			50.00
					1			
					2			

Form 3a

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DRILL-HOLE NO UAL-13

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								50.00
50.0					51		2.0	Limestone, as above
	52.0				52			52.00
52.0		CORING					2.0	Limestone, as above
	54.0				54			54.00
54.0		NON		Car	54.11		0.11	claystone, olive gray 5Y 3/2, slightly sandy, slightly calc.
CONTACT 54.11							1.20	claystone, M. bluish gray 5B 5/1, semi hard, semi compact, slightly fossile, pyrite, soapy, fine black parting 54.11
	56.0				55		1.40	sandstone, M.D. gray, N4, fine - med gr., sub-ang. to sub-rounded, loosely cemented at places, hard, compact, fine calc. parting at base. 55.31 56.00
56.0					56		0.27	claystone, 5Y 2/1, calc, compact, pearls, fragments, pyrite 56.71 56.98
	(0.53)				57		0.11	claystone, as above. 57.09
57.51		NO RECOVERY					0.15	coal / carb. shale 57.24
							0.26	conglomerate, N6, clay pebbles, Non-cal
							0.01	
							0.30	conglomerate, as above 57.81
	(2.65)				8		1.98	Claystone, N6, semi hard, compact, concoidal-fractures at places, sandy, silty, root impressions, pyrites, coaly partings, more calc. towards base, non-cal.
	60.0				59		0.21	claystone, N4, S. hard, compact, fossil, conc. fracture, calc 59.79 60.00
					60			↘ Continued.
					1			
					2			

METING LIMESTONE

SONHARI

Form 3a

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DRILL-HOLE NO UAL-13

SONHARI BEDS

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60.0								60.16.
	(3.05) 63.21	3.05			3.05			silt stone, as above.? Claystone, N4, silty, calcareous, slightly carb., burrows, foram. 63.21
63.21	66.26				3.05			Sandstone, N5, V. fine – fine gr., sub rounded to rounded, moderately sorted, semi hard, compact, non-cal. to slightly calcareous, burrows, fossiliferous, foram, plant remains Calcareous layers 1/2 cm to 1 cm present 66.26
66.26	69.31				3.05			Sandstone, N4, fine grained, as above 69.31
69.31								Claystone - (description continued) → continued.

DRILL-HOLE NO UAL-13

FORMATION	CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
SONHARI		72.36 (3.05)	3.05			71, 72		3.05	claystone, D. Gr. gray, 5GY 4/1, Semi hard, semi compact, pyritic, fossiliferous, more fossiliferous towards base, slightly sandy, calcareous at places 72.36
	72.36	)				73		1.25	claystone, as above fossiliferous, shells, sandy at lower half..
LAKHRA FORMATION		75.41 (3.05)	2.87			73.61, 74, 75, 75.23		3.05	LIMESTONE : RICHLY FOSSILIFEREOUS 73.61 Fossil Hash ; Greenish Gray 5GY 6/1 Semi hard, compact, Highly fossiliferous, calcareous. glauconitic, Silica quartz Grains (forams) (foramaniferal) Fossilwa
						75.23, 75.41		0.18	Fossil Hash ; Core loss same as above. 75.23 75.41
75.41	75.41	78.46 (3.05)	3.05			76, 77, 78		3.05	Fossil Hash, as above. LIMESTONE : LIMESTONE :
	78.46					79, 80			Fossil Hash; as above

continued

DRILL-HOLE NO WAL-13

LAKHRA

BARA FORMATION

(PALEOCENE)

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					80.46		3.05	80.46
					81			sandstone, D. gr. gray, 5 G 4/1, fine grained, subrounded, moderately sorted, slightly calc. highly glauconitic, soft, fossiliferous, shell frag.
	81.51							81.51
81.51	(3.05)	3.05			82		3.05	sandstone, as above
					83			
	84.56				84			84.56
84.56	(3.05)	1.10			85		1.10	sandstone, as above, fine to medium grained, quartz > 90, non-calcareous.
								85.66
					86			
					86.51		1.95	SANDSTONE: Core loss same as above.
	87.61				87			coreloss = 1.95
87.61	0.65	0.60			87.61			87.61
	88.26				88		0.65	sandstone, as above.
					88.21		0.05	SANDSTONE: Core loss same as above. 88.21
88.26	(2.40)	2.34			88.26			88.26
					89		2.34	sandstone, as above.
					90			→ continued

Contd →

2

DRILL-HOLE NO WAL-13

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								← continued from previous page.
	90.66				90.60		0.06	SANDSTONE: Core loss same as abov. 90.60
					90.66			90.66
								90.74
90.66							0.22	Sandstone, as above. 90.96
					91			↖ 5G 6/1, hard and compact; fine to medium, calcareous, rare fossil shell frag. glauconitic
	(3.05)	2.66					3.05	Sandstone: (Silica Sand). Dark greenish gray 5G 4/1. fine to medium gr. subangular to subrounded glauconitic, mostly silica quartz grains, soft, friable, non-calcareous
					92			
					93			
					93.32			93.32
	93.71				93.71		0.39	SANDSTONE: Core loss same as above 93.71
93.71								sandstone, as above, 0.25 m cal, fossiliferous.
					94			
	(3.05)	2.73						
					95		3.05	95.20
							0.25	Sandstone; greenish gray 5G 6/1. fine to med. gr. hard, compact, fossiliferous, glauconitic, pyritic, calcareous. 95.45
					96			
								SANDSTONE: Core loss same as above. 96.44
	96.76						0.32	core loss = 0.32 96.76
96.76								
96.76					97			Sandstone, D. Gr gray, 5G 4/1, medium grained, subangular to subrounded, poorly sorted, soft, non-calc., cal at certain places, quartz > 90% carby. (core loss 0.05 at base)
	(3.05)	3.00						
					98			
					99			
				99.81	99.76		0.05	SANDSTONE; Core loss same as above. 99.76
99.81	99.81				99.81			99.81
					100			
					1			
					2			

DRILL-HOLE NO UAL-13

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(2.95)	2.83			101		2.83	Sandstone, as above. Sandstone, N-7, fine-med.gr., calcareous, fossiliferous broken shells, hard, compact.
	102.76				102		.12	Core Loss 102.64 102.76
102.76	(3.08)	2.68			103		2.68	Sandstone, 5G 4/1, fine-med-gr., subr.-rounded, m.sorted, m.hard-soft, semi compact, non-cal. quartz >90, glauconitic, coaly at places.
	105.84				104			
					105			105.44
							0.40	C.L. 105.84
105.84					106		0.10	C.L. 105.94
								Sandstone, as above, soft, broken shells.
					107		2.95	
	108.89				108			108.89
108.89					109			Sandstone, Greenish black 5G 2/1, f-med gr., subang-sub rounded, p. sorted, soft-m.hard, s.compact, non-cal. glauconitic, coaly, forams.
					110			→ continued
					1			
					2			

continued

DRILL-HOLE NO UA2-13

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Contd. from previous page.
					111		2.93	
	111.93						0.11	C.L. 111.82 / 111.93
111.93	(2.25)	1.25			112			Sandstone, as above.
	114.18						1.25	113.18
					113			
							1.0	C.L CORE LOSS
					114			114.18
114.18	(0.88)	0.50					0.38	C.L. CORE LOSS (sst. same as above). 114.56
	115.06						0.26	0.04 sandstone, dark yellowish grey 5GY 4/1. C same as above. Sandstone, grey 5GY/1 hard, compact, fine to med. gr. quartz gr. in abundance, glauconite, subangular to subrounded, large shell fragments present. 114.91
					115		0.15	sst. -do-. 115.06
115.06							0.30	C.L. (sst.) 115.36
	(2.20)	1.90			116		1.90	Sandstone, as above
	117.26				117			
117.26	(0.85)	0.85					0.85	Sandstone, as above. 117.26
	118.11				118			118.11
118.11	(1.45)	1.45					0.25	Mudstone, 5G 2/1, fossiliferous, non-cal, glauconitic, carby. 118.36
	119.56						0.25	Sandstone, 5G 8/1, f-m gr, subang-subr., R. fossil., Glauc, calcareous. 118.61
							0.35	Sandstone, 5G 4/1 silty, clayey, fossil., calc. carby. 118.96
					119		0.60	Sandstone, 5G 4/1, non-calc fossil, Glauc. 119.56
119.56								Sandstone, as above
					120			
					1			
					2			

DRILL-HOLE NO UAL-13

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							0.74	siltstone, N3, slightly calc. carby, fossiliferous 120.30
	121.16				121		0.86	dark grey N3. semi hard, compact, carbonaceous at places sandy & clayey. 121.16
121.16	(2.0)	1.88			122			sandstone, 5G 4/1, fine - med. gr. noncalc. fossil. clayey at base - (dark greenish grey) - loose & friable grains - subangular to subrounded, poorly sorted, carb. no cal. shell fragments at places clayey at base, glauconitic.
	123.16				123		0.12	CORE LOSS (55%) 122.92
							0.12	siltstone, 5G 4/1, hard, compact, glauconitic, calc. pyritic 123.04 123.16
123.16	(1.05)	1.05			124		1.05	sandstone, as above.
124.21								124.21
	(2.52)	2.48			125		2.18	sandstone, N3, v.f. - f. grained, sub-rounded, m. sorted, semi hard. compact, non calc fossil., forams, pyrite, glauconite, carby.
	126.73				126		0.30	sandstone, N4, f - m. gr., calc., fossil, ~~forams & broken shells~~. 126.43 126.73
126.73	(2.74)	2.65			127		0.54	limestone, N6, sandy / marly, pyrite, fossil, shells, ~~forams~~, burrows, disseminated glauconite
							0.65	claystone N3, heavily burrowed, abundant forams, shells, and plant remains, carby, sandy patches, pyritic, glauconitic, medium hard.
					128		0.57	claystone, N3, becoming more sandy towards base, carby.
								sandstone, N3, f - m. gr sorted, soft, has claystone patches, pyrite, glauconite, carby.
	129.47				129		0.09	C.b. 129.38 129.47
129.47								
					130			Contd.

Contd

DRILL-HOLE NO UAL-13

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(1.83)	1.10					1.10	Sandstone, Grayish olive green, 5GY 3/2, f — m. gr. sub r. m. sorted, s. hard — soft, glauconitic, mainly quartz, caoly, interbedded with f. gr. sand & silt, N2, caoly, pyritic, non-calc. 130.57
	131.30				131		0.73	C. L. 131.30
131.30	(1.09)	0.70					0.70	Sandstone, 5G 2/1, as above 132.00
	132.39				132 / 132.39		0.39	C. L. 132.39
132.39	(0.97) 133.36	0.82 / 0.97	0.82		133		0.82	Sandstone N3, m-gr., alternate layers of silty clay and caoly shale, hard compact, siderite filled burrows, fossiliferous, glauconitic, non-calc, flaser B. at lower part 133.21
							0.15	C.L. 133.36
133.36	(3.05)	3.05					0.25	Sandstone, silty, N3, semi hard, compact, fine gr., non-calc. fossil
							0.24	Sand stone, 5GY 2/1, hard, compact, fine gr. fossiliferous, calc
					134 / 135		1.85	Sandstone, N3, semi hard, semi compact, v.f. — f.gr., rounded to sub r., thin silty & clayey layers, fossil., non-calc, caoly, glauconitic, thinly bedded.
							0.20	sandstone 5GY 2/1, Hard, fine gr. fossil, Glauc., calc., caoly.
	136.41				136		0.46	sandstone, 5G 2/1, loose, friable, f-m.gr., fossil, non-calc, Glau. quartz in abundance 136.41
136.41							0.05	sandstone 5GY 2/1 hard & compact as above
							0.08	Sand stone, as above
							0.19	Sand stone, 5GY 4/1, f- m.gr. semi hard, fossil, Glauco, non-calc.
							0.14	Sandstone, calcareous
					137		0.62	sandstone, non-calc, glauc, massive, as above.
	(3.05)	3.05			138 / 139		2.12	Sandstone, 5G 2/1, f- m.gr, sub ang. to sub r. loose, friable, non-calc, v. thin silty & clayey layers, glauconitic, caoly, quartz in abundance.
	139.46							139.46
139.46					140		0.80	Sand stone, as above 5G 2/1

continued

continued

Form 3a

DRILL-HOLE NO UAL-13

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.05)	3.05			141		2.25	SAND STONE: Same as above more clayey towards base. 142.51
	142.51				142			SANDY SILTSTONE: Olive black 5Y 2/1, semi-hard, semi-compact, animal burrows, interbedded sst & silt st. sst. is fine gr., √3 grain in abundance, no calc., carb. Glauconitic. 143.22
142.51					143		0.71	SAND STONE: Dark greenish grey, 5GY 4/1 fine to med. gr. sub-angular to sub-rounded, fossiliferous, semi-hard, semi-compact, Glauconitic, no calc. massive, carbonaceous. 143.97
	(3.05)	3.05			144		0.75	SAND STONE: Greenish black, 5G 2/1, loose & friable, fine to med. gr. sub-angular to sub-rounded, v. thin silty & clayey layers interbedded, no calc. √3 gr. in abundance, Glauconitic, carbonaceous. 144.93
	145.56				145		0.96	SAND STONE: Same as above. 145.56
145.56							0.63	SAND STONE: Dark grey N3, fine to med. grained, mostly silica √3 grains, Glauconitic, calc. at base, slightly carb. 146.41
	(1.88)	1.88			146		0.85	MUDSTONE / SANDY CLAY STONE: Dark greenish grey, 5GY 4/1, semi-hard, semi-compact, calc. Glauconitic, shell fragments. 147.44
	147.44				147		1.03	SAND STONE: Greenish black 5GY 2/1 fine to med. grained, soft, friable, non calc. slightly carb. 148.04
147.44	(1.17)	1.17			148		0.60	SAND STONE & CLAY STONE INTERBEDDED: Greenish black, 5GY 2/1, fine gr. sst. sub-angular to sub-rounded, loose, friable, claystone pyritic, also fine carb. layers. claystone is thicking towards bottom. 148.61
	148.61						0.57	
148.61		2.62			149		1.24	SAND STONE: Greenish grey. 5G 6/1 fine gr. sub-angular to sub-rounded, Glauconitic, clayey at places, few black grains? 149.85
					150		1.10	SAND STONE CLAY STONE INTERBEDDED: Light grey, N7, fine to med. gr. sub-angular to sub-rounded, slightly carb. at top, pyritic, Glauconitic. 150.25
					2			

DRILL-HOLE NO UAL-13

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								contd. (sst.)
							1.10	150.25
							0.88	SAND STONE: Greenish grey 5GY 6/1, fine to med. grained, sub-angular to subrounded, clayey at base, non calc. 151.13
	151.23				151		0.10	CORE LOSS at base sst. same as above. 151.23
151.23							0.10	CORE LOSS from top sst. as above. 151.33
							1.40	SAND STONE CLAY STONE INTERBEDDED: Dark greenish grey 5GY 4/1, fine to med. gr. sub-angular to sub-rounded, Glauconitic, more sandy towards base. 152.73
	(2.98)	2.80			152			SAND STONE: Dark greenish grey, 5GY 4/1, fine to med. gr. sub-angular to sub-rounded, non calc. Glauconitic, clayey. 153.58
					153		0.85	SAND STONE CLAY STONE INTERBEDDED: Same as above. 154.21
	154.21						0.53	SILT STONE: Olive black, 5Y 2/1, with thin lamination of very fine gr. white sst. 154.36
154.21					154		0.15	CORE LOSS sst. as above. 154.54
							0.18	SAND STONE: Greenish black, 5G 2/1 fine to med. gr. sub-angular to sub-rounded, very silty, very clayey, Glauconite, broken pellets, fossil fragments, massive, silty, calc. Top half soft, bas hard + more calc. 155.44
	(2.87)	2.87			155		0.90	SAND STONE: Greenish black, 5G 2/1, mottled white, med. gr. clayey, sub-angular, abundant, Glauconite frag. & pellets, abundant broken aragonite shells. 155.67
							0.23	SAND STONE: Greenish black, 5G 2/1, fine to v. fine gr. scattered fossils, frag. clayey, non calc. with a few olive grey 5Y 4/1 silt stone interbeds and lenses, also yellowish brown sideritic silt lenses. 156.89
					156		1.22	SILT STONE: Olive grey. 157.03
	157.08						0.14	SILT STONE SAND STONE INTERBEDDED: as below. 157.08
157.08					157			SILT STONE SAND STONE INTERBEDDED: as above with rythmic interbeds of pale yellowish brown 10YR 6/2 siderite(?) silt stone upto 1cm thick also scattered, med. gr. calcareous sst. lenses, very hard, pyritic. 159.51
		2.43			158		2.43	SILT STONE: N3, fossiliferous, small shell fragments, pyritic, slightly calc. has lenses/burrows of siderite.
	159.51				159			
159.51		1.30					0.65	160.16
					160			↖ continued
					1			
					2			

DRILL-HOLE NO LIAL-13

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								160.16
	(1.3) 160.81	1.30					0.65	SILT STONE: Dark greenish grey 5GY 4/1 sandy with patches of broken shells fragments, & plant remains, calc. Glauconitic. 160.81
160.81							0.10	CORE LOSS at top. 160.91
160.81	(3.05)	2.95			161		1.18	SILT STONE: Greenish black 5G 2/1 sandy calc. shell fragments, Glauconitic material 162.09
					162			SILT STONE: Olive grey, 5Y 4/1 with sandy layers, patches of fossil material, forams & broken shells, siderite lenses & burrows, calc. fragments. 163.06
							0.97	SILT STONE: 5Y 4/1 sandy, siderite filled, burrows, slightly calc. pyritic, Glauconite, semi-hard & compact. 163.86
	163.86				163		0.80	SILT STONE: Olive grey, 5Y 4/1 semi-hard, semi-compact, sandy towards base, fossil shell frag. non calc. sandy nodules, pyritic. 165.26
163.86	(2.90)	2.90			164		1.40	SAND STONE: Light olive grey, 5Y 5/2, fine to med. gr. semi-hard, semi-compact, poorly sorted, non calc. slightly clayey, fossil shell fragments at places. 166.16
					165		0.90	SAND STONE: Olive grey, 5Y 4/1 fine to med. gr. soft to semi-hard, semi-compact, clayey. fossil shell frag. pyritic, Glauconite. 166.76
	166.76				166		0.60	CORE LOSS from Top sst. as above.
166.76	(2.96)	1.47			167		1.47	168.23
					168			SAND STONE: 5Y 4/1 same as above, more clayey at bse 169.72
	169.72				169		1.49	SAND STONE SILT STONE INTERBEDDED: Dark yellowish brown 10YR 4/2 fine gr. sst. Glauconitic; sub-angular to sub-rounded, non calc. shell fragments. 169.94
169.72		1.56			170		0.22	Contd.
					1			
					2			

Form 3a

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DRILL-HOLE NO HAL-13

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							0.35	SAND STONE: Olive grey 5Y 4/1, semi-hard, semi-compact, fine to med. gr. sub-angular to sub-rounded, clayey nodules at places, shell fragments, non calc. 170.29
							0.97	SAND STONE: 5Y 4/1 same as above loosely compact at base. 171.26
	171.26				171			
171.26	(1.75)	1.75						SAND STONE: Med. light grey N6, loose & friable, fine to med. grained, sub-angular to sub-rounded, qtz grains in abundance, Glauconite, non calc. Thin silty + clayey layers at base & rare shell fragments. 173.01
	173.01				172		1.75	
173.21	(1.25)	1.25						SAND STONE: Olive grey 5Y 4/1, semi-hard, semi-compact, fine gr. sub-angular to sub-rounded, shell fragments, non calc. slightly silty. 173.21
	174.26				173		0.20	
							1.02	SILT STONE: Olive grey 5Y 4/1, semi-hard, semi-compact, animal burrows, slightly silty & clayey at places, shell fragments, pyritic. 174.26
					174		0.03	Loss
174.26	(1.80)	1.90						SILT STONE: Same as above. 174.94
	176.06						0.68	
					175		1.12	SANDSTONE & Siltstone interbedded Dark grey N3 Semi hard, Semi compact, Sandstone nodules at places. Sandstone is fine grained, slightly calc at places, shell fragments, more sandy at base, carb ~~sand~~ burrows. 176.06
176.06	(1.55)	1.50			176		0.05	Siltstone: 5Y 4/1, with thin layers of fine grained Sandstone, Semi hard, compact, clayey, non to slightly calc, glauconitic, pyritic, layers of Sederite and filled burrows. 176.96
	177.61						0.90	
177.61	(1.50)	1.50			177		0.60	SILTSTONE: Sandy calcareous N5-N7, hard, compact, highly calcareous highly fossiliferous, forams and broken shells, glauconite pyrite, becoming lighter colour and more calcareous towards the base 177.56
	179.11				178		1.50	~~Core lost at base~~ 177.61
179.11	(2.95)	2.95			179			SILTSTONE: (Sandy, calc) as above 5Y 4/1, Siderite filled burrows, shells and burrows as above 179.11
							0.63	SILTSTONE: 5Y 4/1 sandy layers and Sedrite filled burrows and lenses as above 179.74
					0		0.55	SILTSTONE: calcareous & hard part as above. 180.29
					1			
					2			

Contd.

DRILL-HOLE NO UAL-13

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	182.06	(2.95)	2.95		181		1.77	SILTSTONE: N3-4 with sederite burrows as upper part of this run lower part becomes more sandy and less calcareous.
182.06	(30.05)	3.05			182			182.06
	185.11				183		1.65	SILTSTONE: N3-4 Sandy, very slightly calcareous with sederite patchs and burrows, glauconitic material, some forams and small shell fragment medium hard, compact, gradually passing into fine grained. Sandstone
					184		2.40	182.71
					185			SANDSTONE: N3. fine to medium gr. angular to sub angular, moderately sorted, semi hard, compact becoming soft towards base, non calc quartz 90% glauconitic, coaly material
185.11	(0.86)	0.80					0.80	185.11
	185.97				186			sand st/silt st interbedded. N3, non calc. glauconitic as above Cl. 0.06 at base
185.97	(1.68)	1.65					0.90	186.03 Cl. Core Loss (0.06) 185.97 Siltstone N4 clayey, hard, compact, pyrite veins and grains, non-calc, slightly carby. 186.00
	187.65				187		0.35	186.90 coal (sample UAL-13-1) 187.25
							0.40	clay st/coaly Sh; N3; soft-m. hard, compact, silty at places, pyrite grains abundant, non-calc, highly carbonaceous 187.65
187.65		3.05	3.05		188		1.36	CLAYSTONE: Dark yellowish brown 10YR 2/2 semi hard, compact, conchoidal fracture, animal burrows, highly carb, very thin sandy & silty layer at places, pyritic, no calc 189.01
					189		0.10	CARBSHALE: Brownish black 5YR 2/1, semi hard, semi compact, laminated. Fissile, resin, clayey. 189.11
							0.59	Claystone Dusky yellowish brown 10YR 2/2 & lower part med, dark grey N4, semi hard & compact, upper part is more carb, pyritic, resin, sandy patches at places Silty & Sandy in the lower part, v thin carb layer (0.06)
					190		1.0	189.70
					1			SANDSTONE: Med, light N6, soft, fine gr, poorly sorted, slightly clayey, thinly bedded, no calc v. thin carb layers at places
					2			(continued)

continued

DRILL-HOLE NO LIAL-13

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION (continued)
							1.0	Sand Stone
	190.70							190.70
190.70					191		0.40	CL 191.10
							1.96	Sandstone : Med light grey N6, loose, friable, fine gr. poorly sorted, very thin carb. layers at places, non calc quartz gr. in abundance.
	(2.35)	1.95			192			193.06
	193.06							SANDSTONE : Light olive grey 5Y 6/1. Hard & Compact fine to med. gr, sub angular to subrounded, non calc 193.12
193.06					193		0.06	SANDSTONE : Light grey N3 (Silica Sand) loose friable fine to med gr. subangular to subrounded, very thin carb layer at places, massive, no calc 193.54
	(0.73)	0.48					0.42 0.30	
	193.79						0.25	Core loss 0.37 193.79
193.79					194			SANDSTONE: Light grey N3 Same as above.
	(1.37)	1.55					+37 1.49	
	195.16				195			195.16
195.16	(0.23) 195.39	0.20					0.20	SANDSTONE: Same as above, carb at base. 195.36
195.39							0.03 0.12	Core Loss Core Loss 195.39 195.51
	(0.97)	0.85			196		0.97 0.85	SANDSTONE: Same as above
	196.38							196.38
196.38	(0.23) 196.61	0.23					0.23	SANDSTONE : Same as above. 196.61
	(0.84)	0.84			197		0.84	SANDSTONE: Same as above
	197.55							197.55
197.55	(0.41) 197.96	0.32					0.09 0.32	C.L. SANDSTONE: Same as above more but more carb thin layers present 197.64 197.96
197.96					198		0.16	SANDY CLAYSTONE: olive gray 5Y 4/1, semi hard & compact sandy non calc, very thin carb layer in the middle part 198.12
	(1.28)	0.70					0.54	SANDSTONE : very light gray N8. fine to coarse gr. sub angular to sub rounded, mostly Silica quartz gr. very fine carb layers at places, non calc 198.66
	199.24				199		0.58	
199.24	199.63	(0.39)	0.31				0.08 0.31	SANDSTONE: Loss as above. 199.24
Contd					200	Contd		SANDSTONE: Loss as above 199.32
					1			SANDSTONE: N6 Med. to coarse gr. sub angular, poorly sorted, loose friable, non calc, non fossilli ferous, early quartz 95% 199.63
					2			

Form 3a

DRILL-HOLE NO UAL-13

FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(1.32) 200.95	1.32			200		1.32	Sand Stone, as above — 200.95
200.95	202.46				201		0.68	C.L. — 201.63
					202		0.83	sandstone N3, medium - coarse gr., subang. - sub rounded, poorly sorted, semihard - hard, compact, calc; carby at places, carby material is accumulated, soft, friable at places, grain > 90% — 202.46
202.46	(1.09) 203.55	1.09					0.25	sand stone, N3, as above — 202.71
					203		0.84	silt st, N7, sandy and clayey, non-calcareous, carby at places, more sandy at the upper part, pyritic. — 203.55
203.55	(1.44) 204.99	1.44			203.55		0.20	SANDY SILTSTONE: Med, light gray N6, Semihard, Semicompact pyritic, clayey, slickenside compaction — 203.75
					203.75		0.13	CLAYSTONE: Med. Dark gray N4, semi hard, semi compact, Soapy, Slickenside compaction, Slightly carb. resin, Dark gray N3 at base — 203.88
					203.88 / 204		0.26	CARB. SHALE: Brownish Black 5YR 2/1, Semi hard, Semi Compact, Fissile, laminated, pyritic, plant fragments clayey — 204.14
					204.14		0.35	COAL: Brownish black 5Y 2/1, Semi hard, compact, pyritic, fusain, resins, very slight clayey. — 204.49
					204.49		0.04 / 0.46	UNDER CLAY / ~~CARB CLAYSTONE~~ Brownish black 5YR 2/1 at top Med. Dark gray N4 at base, Semi hard, Semicompact pyritic, resin. plant roots — 204.99
204.99	205.12	(0.13)	0.13		205 / 205.12		0.13	SILTY CLAYSTONE: Med gray N5, Semihard, semicompact plant frag, roots, concoidal fracture, pyritic, slight sandy non calc. — 205.12
205.12	(0.99) 206.11	0.99					0.99	SILTSTONE: Med gray N5, Semi hard, Semicompact pyritic, plant frag, clayey, Slightly sandy, burrows non calc — 206.11
206.11	206.61				206		0.50	SILT STONE: Med grey N5, semi-hard, semi-compact slightly clayey, sandy nodules at places, plant roots, pyritic, resin, v. fine carb. partings. — 206.61
206.61	209.11				207 / 208		2.50	SANDSTONE & SILTSTONE INTERBEDDED: Olive grey 5Y 4/1 Semi hard, semi-compact, fine gr. sst. poorly sorted v. thin carb. layers at places. sst & silt stone interlayered & interlaminated, slightly clayey. — 209.11
209.11	CONT				209 / 210 / 1 / 2		3.05	contd-

Margin notes: 206.11; (3.0) 3.0; 209.11

Form 3a

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DRILL-HOLE NO UAL-13

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.05) 212.16	3.05			211		3.05	SAND STONE + SILT STONE INTERBEDDED: Same as above.
212.16	214.36	2.20	2.20		212 213 214		2.20	SAND STONE: Light grey N7, semi-hard, semi-compact, fine gr. poorly sorted, very thin carb. layers present, interbedded sst. & silt stone, no calc., at places loose & friable. 214.36
	215.21	0.85	0.85		215		0.85	CLAYEY SAND STONE: Med. grey N5, semi-hard, semi-compact, burrows, plant fragments, no calc. slightly silty & clayey. 215.21
215.21	216.06				216		0.85	CLAYEY SAND STONE: Same as above. 216.06
216.06	216.76						0.70	SANDY SILT STONE: Light olive grey 5Y 6/1, semi-hard, semi-compact, 216.76
216.76	217.21				217		0.45	SAND STONE: Light olive grey 5Y 6/1, semi-hard, semi-compact, fine gr. poorly sorted, animal burrows, no calc. v. thin carb. layers at places, slightly silty. 217.21
217.21	(1.78) 218.99	1.70			218		1.70	SAND STONE: (SILICA SAND): Light grey N7, med. to coarse grained, loose & friable, rounded to sub-rounded, well sorted, sugary, no calc. massive, qtz gr. in abundance. 218.91
								CORE LOSS at base sst. as above. 218.98
218.99					219		0.08	CORE LOSS from top sst. as above.
							1.10	
					220			contd.
					1			
					2			

(3.05) 3.05

(0.20) 0.20

217.21

Form 3a

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DRILL-HOLE NO LIAL-13

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								220.09
							1.10	CORE LOSS.
	(1.22) 221.31	1.10			221		1.22	SAND STONE: N6, med. to coarse grained, angular to sub-angular, moderately sorted, loose, friable, no calc. harder at some places, quartz 795% 221.31
221.31	(0.91) 222.21	0.85			222		0.85	SAND STONE: Same as above. 222.16
							0.05	CORE LOSS at base sst as above. 222.21
222.21	(1.80) 224.01	1.80			223		1.80	SAND STONE: N7, (Silica sand) same as above, loose, friable, semi-hard at places. 224.01
224.01	(3.0)	3.0			224		2.70	SANDSTONE: Light gray N7, fine to medium grain, subrounded to rounded grain, carby layer at places, mostly quartz grains, few pink grains, soft 226.71
					225			SILTY CLAYSTONE: Medium gray N5, semi compact semi hard, carbonaceous, fine coaly flacks, pyritic leaf impression 226.90
					226			COAL: Brownish black, brittle pyritic, slightly clayey resin 227.01
		227.01					0.19	COAL: Same as above. Sandy at base 227.06
227.01	?	?			7		0.11	SILTSTONE: Dark gray, semi hard, semi compact, pyritic plant leaf impression replaced by pyrite, sandy towards base fine to medium sandstone, mostly rounded grains, coaly parting at base 227.87
	228.31				228		0.81	CARBONACEOUS SHALE: Dark gray, soft and brittle coaly flacks, plant frag, clayey, pyritic, very fine sandy patches at places 227.99
228.31							0.12	COAL: Brownish black, brittle, pyritic rooted 228.14
							0.15	CARBCLAYSTONE: Gray, semi hard, compact, silty, coaly parting present, pyritic, rooted 228.31
							0.17	SILTY CLAYSTONE: Medium gray, semi hard, semi compact, very fine carby layer, interlaminated with silty claystone and pyritic, plant leaf impression 228.5
							0.20	SILTSTONE: Medium gray, semi hard, semi compact, rooted, sandy patches at places, pyritic, very fine carby parting 229.21
					229		0.70	SILTY SANDSTONE: M. gray, semi hard, semi compact, fine grain sandstone, mostly rounded grain, clayey, plant roots impression
							0.70	(Contd)
					230			
					1			
					2			

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DRILL-HOLE NO LIAL-13

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
230.06	(3.05) 233.11	3.0			231		0.15	Silty Sandstone Same as above (Core loss) 230.06
							0.26	Silty Sandstone : Same as above 230.32
							2.71	SANDSTONE: Off white, soft to semi hard, medium compact, mostly silica quartz grain, mostly rounded quartz grain are transparent, fine grain fine carby parting at places
					232		(2.87)	233.06
								Sandstone: Core loss Same as above. 233.11
					233		0.05	Sandstone: Same as above.
233.11	(2.03) 235.14	1.80						234.91
								Sandstone: Core loss same as above 235.14
					234		1.80	Sandstone: Same as above. 236.14
					235		0.23	Sandstone 236.51
235.14	(1.37) 236.51	(1.0)					1.0	Sandstone: Off white, very light gray, fine to medium, mostly rounded and silica quartz and transparent, soft
					236		0.37	237.71
236.51	(1.30) 237.71	1.20						Sandstone: very light gray, soft, fine to coarse, fine to medium are mostly subrounded and few coarse are subangular, mostly silica quartz grain, Some Carby parting, few pink grams.
					237		1.20	239.08
237.71	(1.75) 239.56	1.27						Sandstone Core loss Same as above 239.56
					238		1.27	Sandstone, Same as above.
					239		0.48	
239.56							0.30	
					0			
					1			
					2			

Contd—

DRILL-HOLE NO LEAL-13

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(1.68) 241.24	1.20			241		0.50	SANDSTONE. Light gray, off white, soft, fine to coarse grained, fine to medium are rounded and coarse are subrounded, fine coaly layer interlaminated, pyritic
							0.48	240.36
							0.40	COAL/SANDSTONE Core Loss.
241.24	(1.37) 242.61	1.37			242		1.37	240.84
								SANDSTONE: Light gray, off white, fine grain mostly rounded grain carby parting increasing towards base, m. Compact
242.61	(3.05) 245.66	2.90			243			242.61
					244		2.90	Sandstone: light gray to medium gray soft to semi hard, fine to medium grained mostly rounded grains, carby parting and carby shale layer at places
					245			245.57
								Sandstone, Core loss Same as above
245.66	245.93	(0.27)	0.27				0.15	245.66
							0.27	Carbonaceous Sandstone: light gray to Dark gray to Dark gray, fine to medium grain, mostly rounded grain, Carbonaceous layer interlaminated with Sandstone hard at top soft at base Pyritic
245.93	(1.19) 247.12	0.75			246		0.44	245.93
							0.06	
							0.22	
					247		0.47	
							0.15	Carbonaceous Sandstone: Core loss 246.37
							0.49	Carb Sandston: Same as above 246.43
247.12	(1.22) 248.34	0.64			8		0.58	SILTY CLAYSTONE: Dark gray, medium compact medium hard, sandy patches present, pyritic 246.65
					T.D			SANDY CLAYSTONE: light gray, medium hard compact, fine to medium sandy grains are well rounded 247.12
					9			CARB CLAYSTONE: Light gray to blackish gray, semi hard, semi compact, Sticky, more Carbonaceous at base, Coaly fragments, pyritic, slickenside compaction 247.27
					0			SILTY CLAYSTONE: light gray, medium hard, medium Compact, Sandy towards base, mostly rounded grain 247.76
					1			SILTY CLAYSTONE: Core loss Same as above. — 248.34.
					2			— END —

DRILL-HOLE NO UAL-15

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RECOVERY CORE	CORE RECOVERY CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	2.00				1 2			LIMESTONE (CALCISILTITE) Very pale orange 10 YR 8/2 Gr Orange 10 YR 7/4, Hard, compact, slightly sandy, Fossiliferous 2.00
2.00	4.00	NON CORING			3 4			LIMESTONE Very pale orange 10 YR 8/2, Greyish orange 10 YR 7/4, Chalky, soils the finger Rest same as above 4.00
4.00	6.00				5 6			LIMESTONE, Very pale orange 10 Y 8/2 . Rest same as above 6.00
6.00	8.00				7 8			LIMESTONE, Same as above 8.00
8.00	10.00				9 0 1 2			LIMESTONE, same as above 10.00

DRILL-HOLE NO UAL-15

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10.00	12.00							LIMESTONE, Same as above 12.00
12.00	14.00	NONCORING						LIMESTONE, same as above. 13.00 LIMESTONE AND SHALE (MIXED CUTTINGS) L.ST same as above Shale, Colour pale yellowish brown, 10 YR 6/2 Calcareous, soft, silty. 14.00
14.00	16.00							LIMESTONE, same as above. 16.00
16.00	18.00							SHALE Moderate yellowish brown 10 YR 6/2, Silty, Calcareous 17.00 SHALE Pale red 5R 6/2 calcareous silty. 18.00
18.00	20.00							SHALE, Moderate brown 5YR/4/4 Calcareous, gypsiferous ferrugenious, slightly silty, fissile. 20.00

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CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20.00								CLAY/SHALE, Moderate brown 5YR 4/4 silty, Calcareous gypsiferous
	21.00							
	22.00							SANDSTONE. Brownish gray, slightly clayey, Calcareous.
22.00								
	24.00	NON CORING						SILTSTONE Light gray N 7, clayey, abundant dark coloured grains, calcar ; few very small fossil fragments, gypsiferous.
24.00								
	26.00							SILTSTONE, Medium gray N5, abundant dark coloured grains, clayey, calcareous, rare small fossil fragments, gypsions.
26.00								
	28.00							SILTSTONE - Same as above.
28.00								
	30.00							SANDSTONE - Dark yellowish orange 10YR 6/6 Fine grained, subangular to subrounded, calcareous Quartz more than 80 % Rock fragments less than 5 %
								30.00

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CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30.00	32.00							SANDSTONE- Dark yellowish Orange 10YR 6/6 very fine to fine, subangular to sub-rounded. quartz more than 80%. Rock fragments less than 5%. Calcareous. 32
32.00	34.00	NO CORING						SANDSTONE- Same as above. 34.00
34.00	35.00							SANDSTONE- Dark yellowish Orange 10YR 6/6, very fine to fine grained, subangular to subrounded Quartz upto 70%. Rock fragments less than 5%. 35.00
35.00	36.00							MUDSTONE- Medium dark gray N4. 36.00
36.00	38.00							CLAYSTONE- Moderate yellowish brown 10YR5/4 Slightly calcareous, contains few fragments, Sandy material consists of very fine to coarse grains Dominantly very fine subangular to subrounded grains.
38.00	38.53							Cuttings blown out, during lowering the casing 38.00 38.53
38.53	(1.52) 40.05	1.52					0.57	SILTSTONE, Muddy, moderate yellowish brown 10YR 5/4, Gypsum veinlets, Pyritic, Fossil impressions, 39.10
							0.95	SILTSTONE, Dark gray, Few patches of very fine grained pyrite, Fossil fragments at few places, Slightly calcareous. 40.05

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DRILL-HOLE NO UAL-15

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40.05	(2.20)	2.20					2.20	SILTSTONE. Dark gray. Patches of fine grains of pyrite. Few fossil fragments.
	42.25							42.25
42.25	(0.84)	0.61					0.61	SILTSTONE Same as above
	43.09					X	0.23	CORE LOSS Probably Siltstone
43.81	(2.16)	2.16					0.10	SANDSTONE, Greenish gray 5 G 6/1, Medium grained. Fossil fragments present, Calcareous matrix, Glauconitic. 43.19
	45.25						2.06	LIMESTONE Dark yellowish orange, Sandy, highly fossiliferous. May be termed as Calcarenite. 45.25
45.25	(3.05)	3.05					3.05	LIMESTONE Same as above, Firmer and less fossiliferous towards the base (Calcisiltite)
	48.30							48.30
48.30	(1.40)	1.28					0.48	LIMESTONE Same as above
						X	0.12	48.78 CORE LOSS 48.90
	49.70						0.80	SANDSTONE moderate yellowish brown 10YR 5/4 Very fine grained, Subrounded to subangular, well sorted. Few black grains. 49.70
49.70	(1.65)	1.52					1.52	VERY FINE SANDSTONE, SANDY SILTSTONE Other properties same as above
	51.35					X	0.13	51.22 CORE LOSS 51.35

DRILL-HOLE NO UAL-15

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								51.35
51.35	(3.05)	2.85				X	0.20	CORE LOSS 51.55
	≈54.40						2.85	SILTSTONE, muddy, Moderate yellowish brown. Contains iron oxides 54.40
54.40	(3.05)	2.05					1.00	CORE LOSS 55.40
							1.50	SANDSTONE, Dark yellowish orange 10 YR 6/6 Fine grained subrounded to subangular, well sorted, Highly calcareous matrix, Ferrogenous, Sparsely fossiliferous. Clay and Silt bands common, weathered 56.90
	57.45						0.55	MUDSTONE, Pale yellowish brown, 10 YR 6/2 Plant fossils replaced by ferrogenous matter. 57.45
57.45	(3.05)	3.05					0.10	SANDSTONE MUDDY MED TO COARSE GRAINED, DARK YELLOW ORANGE FOSSILIFEROUS, SLIGHTLY CALCAREOUS FEW SIDERITIC NODULES. 57.55
							0.25	MUDSTONE SILTY DARK YELLOWISH ORANGE 10 YR 6/6 57.80
							0.30	MUDSTONE, SILTY, DARK GRAY, CONTAINS ABUNDANT SMALL FOSSIL FRAGMENTS, GRADES INTO SILTSTONE MUDDY DOWNWARDS. 58.10
							2.30	SILTSTONE MUDDY, Dark gray, contains abundant small fossil fragments and fossil impressions Very rare patches of fine grains of pyrite 60.40
	60.50						0.10	MUDSTONE SILTY, Dark gray, pyritic, few siderictic nodules. 60.50

DRILL-HOLE NO UAL-15

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60.50							0.70	CORE LOSS 61.20
							0.40	SANDSTONE, MUDDY DARK YELLOWISH ORANGE 10 YR 6/6 COARSE GRAINED, FOSSILIFEROUS, FRIABLE ILLSORTED CALCAREOUS GRADES INTO FINE GRAINED SANDSTONE NEAR BOTTOM. 61.60
		2.35					0.55	SANDSTONE, HARD COMPACT, FOSSILIFEROUS, PALE YELLOWISH ORANGE 10 YR 8/6. SLIGHTLY MUDDY. FEW SIDERITIC VEINS, MEDIUM TO COARSE GRAINED, CALCAREOUS. 62.15
							1.20	SANDSTONE light bluish gray 5B 7/1, hard compact, calcareous fine to coarse grained, illsorted, fossiliferous. Contains at places green rounded grains, probably of glauconite. 63.35
	63.55						0.20	SANDSTONE, Pale yellowish orange 10 YR 8/6, slightly muddy calcareous, fossiliferous, Ill sorted, fine to coarse grained, Hard. 63.55
63.55							1.75	CORE LOSS 65.30
		1.30			✓		0.25	MUDSTONE, SILTY, DARK YELLOWISH ORANGE 10 YR 6/6, SLICKENSIDED CONTAINS LENSES OF FINE SAND AND FEW FOSSIL FRAGMENTS 65.55
							0.53	SANDSTONE, Dark yellowish orange 10 YR 6/6, Hard, compact slightly muddy/silty, Few fossil fragments. Fine to med grained. Calcareous. Traces of carbonaceous matter. 66.08
	66.60						0.52	MUDSTONE with lenses of fine sand. Dark yellowish orange 10 YR 6/6 Slickensided, Few fossil fragments Traces of carbonaceous matter 66.60
66.60							2.45	MUDSTONE, silty with lenses and their partings of fine sand and silt. Dark yellowish orange 10 YR 6/6 Traces of carbonaceous matter at few places. Slickensided. 69.05
		3.05					0.15	SANDSTONE, Dark yellowish orange 10 YR 6/6, Fine grained muddy/silty. Fossiliferous, well sorted Traces of carby matter 69.20
	69.65						0.45	SANDSTONE, Hard compact, Dark yellowish orange 10 YR 6/6 Slightly muddy/silty, Calcareous, Ill sorted, Rare unidentifiable fossil fragments 69.65
69.65								CONTINUED

DRILL-HOLE NO UAL-15

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION	
							0.80	CORE LOSS	70.45
	(3.05)	2.25					1.12	SANDSTONE, muddy, dark yellowish orange 10 YR 6/6 Few impressions and small fragments of fossils Fine to coarse grained, ill sorted	71.57
							0.83	SANDSTONE, light bluish gray 5B 7/1, hard, compact Abundant fossil fragments, Calcareous, Few fossil impressions, Abundant green rounded probably glauconite grains.	72.40
	72.70			/			0.30	SANDSTONE, muddy, Dark yellowish orange 10 YR 6/6, Fine to coarse grained, ill sorted Traces of Carbonaceous matter.	72.70
72.70							0.55	CORE LOSS	73.25
	(3.05)	2.50					0.70	SANDSTONE, muddy, compact, ferrugenous, Grayish red purple 5RP 4/2, to light gray. Fine to coarse grained ill sorted, Yellow, red, maroon, brown iron oxides.	73.95
							1.05	SANDSTONE, Carbonaceous, light to dark gray, muddy, Very fine to fine grained. Few patches of very fine grained pyrite, Grades into moderate red sandstone 5R 4/6.	75.00
	75.75						0.75	SANDSTONE, moderate red 5R 4/6, Ferrugenous, Yellow, red, brown and maroon iron oxides. Fine to medium grained, Dominantely fine grained. Muddy, Few carbonized plant fragments at one place.	75.75
75.75							1.50	CORE LOSS	77.25
	(3.05)	1.55					0.45	SANDSTONE, Ferrugenous, moderate red 5R 4/6, muddy Fine to medium grained, Dominantely fine grained Yellow brown, red maroon iron oxides	77.70
							0.20	SANDSTONE, YELLOWISH GRAY 5Y 8/1 FINE GRAINED WELL SORTED, FRIABLE FEW POCKETS AND LESES OF COARSE SAND	77.90
							0.65	SANDSTONE Grayish red purple 5RP 4/2 Fine grained to coarse grained, Dominantely fine grained. Ferrugenous. Red brown Maroon iron oxides Few thin layers of ferrugenous mud/shale in the lower portion.	78.55
	78.80						0.20	SANDSTONE, MUDDY, VERY FINE TO FINE GRAINED, GRAY, CARBONACEOUS; FEW COARSER GRAINS.	78.75
							0.05	SILTSTONE - SHALE INTERLAMINATED: GRAY TO DARK GRAY.	78.80
78.80							0.15	SILTSTONE - SHALE INTERLAMINATED, GRAY TO DARK GRAY, CARBONACEOUS FEW THIN LAMINATIONS OF FINE SAND.	78.95
							0.30	SANDSTONE, FERRUGENOUS, MODERATE RED 5R 4/6 MUDDY, FINE TO COARSE GRAINED DOMINANTELY FINE GRAINED.	79.25
	(3.05)	0.55					0.05	SANDSTONE, LIGHT BLUISH GRAY 5B 7/1 HARD, COMPACT. CONTAINS FEW FOSSIL FRAGMENTS. FINE TO COARSE GRAINED, CONTAINS ROUNDED GREEN PROBABLY GLAUCONITE GRAINS. CALCAREOUS	79.30
							0.05	SANDSTONE, MUDDY FINE GRAINED, FRIABLE, LIGHT GRAYISH BROWN.	79.35
							2.50	CORE LOSS	81.85
	81.85								

DRILL-HOLE NO UAL-15

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								81.85
81.85	(3.05)	0.10					0.10	SANDSTONE, Gray, friable, fine grained, Green glauconite grains abundant. Few mud laminations. 81.95
	84.90						2.95	CORE LOSS 84.90
84.90	(3.05)	1.48					1.57	CORE LOSS 86.47
	87.95						1.48	SANDSTONE, Light gray, muddy, friable, fossil fragments at few places. Fine grained. Few thin mud laminations near the bottom. Glauconitic. Two bands of about 5 cms on the upper half, of hard calcareous, Glauconitic Sandstone. 87.95
87.95	(3.05)	0.90					0.20	SANDSTONE SHALE INTERLAMINATED, LIGHT GRAY SANDSTONE FINE GRAINED, LENSES OF MED. GRAINED SAND PYRITIC. 88.15
							0.35	MUDSTONE, Gray to dark gray with lenses of silt. Few small fossil fragments. Traces of Carbonaceous matter. At few places fine pyrite grains have replaced plant matter. Silt glauconitic 88.50
							0.10	SILTSTONE, Gray glauconitic slightly carbonaceous. Pyritic Hard Compact Lenses of sand. 88.60
							0.05	SANDSTONE Gray, fossil fragments, Muddy, Few green rounded glauconitic grains. Few patches of fine Grains of Pyrite 88.65
							0.20	MUDSTONE, Dark gray, slickensided. Sparse carbonaceous matter at places replaced by fine grains of pyrite Few fossil fragments 88.85
							2.15	CORE LOSS
	91.00							91.00

DRILL-HOLE NO UAL-15

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								91.00
91.00						X	0.17	CORE LOSS 91.17
							0.70	SILTSTONE, Gray, Compact, hard, Few fragments of fossils Pyritic, Glauconitic, Near the bottom contains coarser sand grains. 91.87
	(3.05)	2.88					0.80	SANDSTONE, Light bluish gray 5B 7/1, hard, compact, calcareous abundant fossil fragments. Fine to coarse grained, Glauconitic. Pyritic. May be termed as 'fossil hash' Grades into Siltstone DOLOMITE ? 92.67
							1.38	SILTSTONE, Light bluish gray, compact, less calcareous Fossil fragments at few places. Two fossiliferous bands near the bottom. Sparsely pyritic 94.05
94.05							1.54	SILTSTONE, Gray, Fossil fragments, mostly small, scattered throughout the rock. Very few patches of fine grains of Pyrite, Greenish tinge probably due to Glauconite Grades into Sandstone. 95.59
	(3.05)	2.64					1.10	SANDSTONE, Light greenish gray, muddy, hard compact, Calcareous, highly fossiliferous Glauconitic. Full of fossil fragments in the middle. Carbonaceous matter and pyrite sparse. Friable in the lower 15 cms 96.69
						X	0.41	CORE LOSS 97.10
97.10							0.05	SHALE Dark gray Silty. 97.15
	(3.05)	3.05					1.45	SILTSTONE, Gray, Glauconitic, Fossil fragments Carbonaceous matter sparse, usually replaced by fine grained pyrite. Few pockets of medium grained sand. Lower 80 cms interlaminated with mudstone 98.60
							1.55	MUDSTONE interlaminated with silt, Gray to dark gray. Lenses and pockets of siderititic material abundant Silt glauconitic. Mudstone contains sparsely carbonaceous matter and pyrite Thin laminations (upto 1mm) of carbonaceous matter. 100.15
	100.15							

DRILL-HOLE NO UAL-15

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								100.15
100.15	(3.05) 103.20	3.05					1.15	MUDSTONE, Dark gray, Sparsely carbonaceous and pyritic, Few fossil fragments. Few sideritic lenses near the bottom. Concentration of fossil fragments at few places. 101.30
							0.85	SANDSTONE Light greenish gray, Green rounded glauconite grains abundant. Fossil fragments abundant. Sandstone muddy calcareous 102.15
							1.05	MUDSTONE interlaminated with Siltstone, Gray to dark gray, Sideritic pockets and lenses abundant Carbonaceous matter and pyrite sparse Fossil fragments at few places. Silt & glauconitic 103.20
103.20	(3.05) 106.25	3.05					0.49	MUDDY SANDSTONE. Greenish gray, Medium to coarse grained angular to subrounded, glauconitic. calcareous fossiliferous, hard and compact 103.69
							2.56	MUDSTONE Medium light gray to med gray with lenses of fine sand and silt. Plant fossils present, partialy replaced by pyrite, slickensided. 106.25
106.25	(3.05) 109.30	2.95				X	0.10	CORE LOSS 106.35
							0.90	MUDDY SANDSTONE, Medium gray, Medium to coarse grained, Angular to subangular, poorly sorted. Lenses of silt and clay, Calcareous Fossiliferous, Glauconitic, Hard, Compact Fossil impressions. 107.25
							2.05	SANDSTONE Medium gray. Very fine to fine grained Coarsening upwards. Lenses of silt and clay, moderate to well sorted. Slightly calcareous. Rock fragments present. Cross bedded, Fossiliferous, Hard & Compact 109.30
109.30							0.82	SILTSTONE Medium dark gray, Contains lenses of clay and sand Slightly calcareous, At places cross bedded Sparsely pyritic. gypsiferous. 110.12

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CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								110.12
							0.78	MUDSTONE, medium dark gray, Contains lenses of Sand and silt other properties same as above 110.90
	(3.05)	2.78					1.18	SANDSTONE medium gray, Slightly muddy. Med to coarse grained subangular to subrounded Poorly sorted. Highly fossiliferous Hard and compact, glauconitic 112.08
	112.35					X	0.27	CORE LOSS 112.35
112.35							2.40	SILTSTONE, Med gray, Fining upwards, at the base becomes very sandy. Non calcareous. Fossiliferous. Fossil impressions slightly carbonaceous, Glauconitic. Few grains of pyrite. Gypsiferous, compact and hard 114.75
	(3.05)	3.05					0.65	SILTSTONE Medium dark gray. Pyritic, Glauconitic. slightly carbonaceous. Fossil fragments. 115.40
115.40							0.44	SANDY SILTSTONE, Medium gray, Slightly calcareous, fossil fragments Pyritic, glauconitic, Hard, compact Few plant fossils. Few siderytic nodules 115.84
							1.09	SILTY CLAYSTONE Same as above. Contains siderytic lenses and nodules. 116.93
	(3.05)	3.05					0.80	SANDSTONE Medium gray, fine to med grained, subrounded to subangular. Calcareous, Highly fossiliferous and glauconitic 117.73
	118.45						0.72	SANDSTONE Med gray. Very fine to fine but contains coarse grained patches of fossiliferous Sandstone, Subrounded to subangular. Pyritic, glauconitic. Contains plant fossil remains and forams at few places. 118.45
118.45							0.52	SANDY SILTSTONE Medium light gray, Calcareous, Contains fossil fragments. clay nodules, siderytic nodules and lenses 118.97
	(3.05)	3.05					1.18	SANDSTONE Med light gray. Very fine grained, Few grains of pyrite. Glauconitic. Ferrogenous matter present. Plant impressions partly replaced by iron oxides 120.15
	121.50						1.35	SANDSTONE Med dark gray, fine grained sandstone Grades to sandy siltstone, subangular to subrounded. Moderate to well sorted Pyritic, glauconitic, slightly calcareous Carbonaceous matter and fossil fragments present 121.50

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CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								121.50
							0.05	CORE LOSS 121.55
121.50	(3.05)	3.00					2.58	SILTSTONE Medium gray, calcareous, Pyritic, plant fossil impressions and sideritic nodules at places. 124.13
	124.55						0.42	SANDSTONE, Muddy. Med light gray. Fine & medium grained subrounded to subangular, Calcareous, highly fossiliferous glauconitic, pyritic, contains clay nodules and plant fossels hard and compact. 124.55
124.55	(3.05)	3.05					0.87	SILTSTONE Medium light gray, Contains fossel fragments, Pockets of calcareous. Pyritic, Plant remains replaced by pyrite, glauconitic and soft. 125.42
	127.60						2.18	MUDSTONE Dark gray, highly carbonaceous, some coal particles present, pyritic, glauconitic. Contains plant fossels. 127.60
127.60	(3.05)	3.05					2.00	SANDSTONE Medium gray, subangular, well sorted, pyritic coaly streaks and plant fossils at some places, Replaced by marcasite, Glauconitic, Fine grained 129.60
							0.33	SILTSTONE Medium gray. Contains pockets of Sand. Pyritic, slightly carbonaceous. Plant impressions present. 129.93
							0.33	MUDSTONE Medium gray, pyritic, slightly carbonaceous 130.26
	130.65						0.39	SANDSTONE Med gray, Very fine grained. Contains bands of Siltstone, Subangular, well sorted, Pyritic, Carbonaceous 130.65

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CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								130.65
130.65							1.10	SANDSTONE Fining upwards other properties same as above 131.75
	(3.05)	2.05					0.95	SANDSTONE Medium gray, Medium grained, subrounded to subangular, well sorted, Soft, plant fossils present, Glauconitic, pyritic 132.70
133.70							1.00	CORE LOSS 133.70
	(3.05)	2.00					1.05	CORE LOSS 134.75
							1.48	MUDSTONE Medium gray, Fossil fragments, coaly specks Pyritic, glauconitic, soft 136.23
136.75							0.52	SANDSTONE, Medium light gray. Fine grained, Soft, Glauconitic, carbonaceous, pyritic, plant fossils present. Few Quartz grains Noted. 136.75
	(1.70)	1.35					1.35	SANDSTONE - Same as above - 138.10
138.45							0.35	CORE LOSS 138.45
	(1.35)	1.35					1.35	SILTY SANDSTONE Medium light gray to greenish gray Fine grained. Some pockets of coarse grained Sandstone Moderately sorted, angular to subangular, glauconitic, Fossil fragments. Pyrite very rare. Moderately soft 139.80
139.80							0.23	MUDSTONE MED GRAY, CALCAREOUS, FOSSIL FRAGMENTS, PYRITIC GLAUCONITIC. FEW POCKETS OF FINE SAND 140.03

DRILL-HOLE NO VAL-15

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								140.03
	(3.05)	3.05					1.05	SANDSTONE Greenish gray 5 GY 6/1 Fine grained, fining upwards Angular to subangular, Poorly sorted Fossil frag ments, fossil compressions, foram, common Calcareous, Pyritic, Glauconitic. Plant fossils present. 141.08
							0.94	MUDDY SANDSTONE Greenish Gray, 5 GY 6/1 fine grained angular to subangular, highly calcareous, fossiliferous and glauconitic. Pyritic. Plant fossils replaced by marcasite. 142.02
	142.85						0.83	SANDSTONE Medium gray, Fine to medium grained, subrounded to subangular. Highly glauconitic, pyritic, loose friable, carbonaceous band at the bottom 142.85
142.85							0.35	SANDSTONE Same as above 143.20
	(3.05)	3.05					2.70	MUDSTONE Medium light gray to dark yellowish brown Mudstone interlaminated with siltstone/fine Sandstone. Glauconitic, Carbonaceous. Carbonaceous bands contain plant fossels partly replaced by marcasite. 145.90
145.90							0.65	MUDSTONE Medium gray, Pyritic, glauconitic, carbonaceous friable. Coal specks present 146.55
							0.45	CORE LOSS 147.00
	(3.05)	2.60					0.67	SANDSTONE, Greenish gray, 5 GY 6/1 Coarse grained, angular to subangular, highly glauconitic, pyritic and carbonaceous. 147.67
	148.95						1.28	SANDSTONE Medium light gray, laminated with siltstone Fine grained. Subrounded to subangular Well sorted, pyritic, highly glauconitic carbonaceous, Calcareous. Soft 148.95
148.95							0.30	SANDSTONE GREENISH GRAY, MED TO FINE GRAINED, SUBROUNDED TO SUBANGULAR, CLAYEY, GLAUCONITIC, CARBONACEOUS, PYRITIC CALCAREOUS SOFT 149.25
							0.40	MUDSTONE MED GRAY, INTERLAMINATED WITH SANDSTONE AND SILTSTONE SUBROUNDED TO SUBANGULAR, WELL SORTED, HIGHLY GLAUCONITIC CARBONACEOUS PYRITIC CALCAREOUS AND SOFT 149.65
	(2.30)	1.20					0.50	SANDSTONE MED LIGHT GRAY, MEDIUM GRAINED SUBANGULAR TO SUBROUNDED, WELL SORTED, CALCAREOUS, SOFT HIGHLY GLAUCONITIC AND PYRITIC. 150.15
	151.25						1.10	CORE LOSS 151.25

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CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								151.25
151.25	(0.75) 152.00	0.60				X	0.15	CORE LOSS 151.40 SANDSTONE, medium light gray, fine grained, angular to subangular, calcareous, pyritic, carbonaceous, glauconitic, well sorted 152.00
152.80	(1.80) 153.80	1.50					1.50	SANDSTONE, Gray, friable, muddy, Glauconitic Fine grained 153.50
							0.30	CORE LOSS 153.80
153.80	(0.80) 154.61	0.41					0.40	CORE LOSS 154.20
							0.20	SHALE SANDSTONE INTERLAMINATED LIGHT GRAY TO GRAY SANDSTONE FINE GRAINED. GLAUCONITIC, DOMINANTELY QUARTZ GRAINS FEW YELLOWISH BROWN GRAINS 154.40
							0.21	SANDSTONE LIGHT GREENISH GRAY, HARD, COMPACT, CALCAREOUS, FINE TO MED GRAINED. ABUNDANT GLAUCONITE FEW YELLOW AND BROWN GRAINS. 154.61
154.61	(3.05) 157.66	3.05					1.05	SANDSTONE, MUDSTONE INTERLAMINATED. Gray to Dark gray. Few Carbonaceous laminations. Fossil fragments near the bottom. Sandstone very fine to fine grained, Glauconitic At places pyritic 155.66
							0.95	MUDSTONE, Grayish black, slickensided. Few pockets of Sand, concentration of fossil fragments in these pockets Rare glauconite grains in these pockets Mudstone contains carbonaceous matter at few places, usually replaced by fine grains of pyrite. Grades into Siltstone 156.61
							0.65	SILTSTONE, muddy, dark gray, Contains carbonaceous matter mostly replaced by fine grained pyrite Glauconitic, Grades into Sandstones 157.26
							0.40	SANDSTONE. Gray, muddy, fine grained, glauconitic Friable. Sparsely pyritic 157.66
157.66	(3.05) 160.71	3.05					3.05	SANDSTONE, Gray to light greenish gray, muddy, glauconitic, Fine grained, Few small fossil fragments at places. Carbonaceous matter very rare, mostly replaced by fine grained pyrite 160.71

DRILL-HOLE NO. UAL-15

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								160.71
160.71							0.09	CORE LOSS 160.80
	(2.04)	1.95					1.45	SANDSTONE, Greenish gray, highly glauconitic Clusters of fossil fragments at few places Few small fossil fragments scattered throughout the rock Few hard calcareous bands. Fine to medium grained. Thin coaly laminations in harder bands. 162.25
	162.75						0.50	SANDSTONE, Light greenish gray, glauconitic Fine grained Scattered small fossil fragments 162.75
162.75							0.25	SANDSTONE SHALE INTERLAMINATED LIGHT GRAY TO GRAY SANDSTONE FINE GRAINED GLAUCONITIC MOSTLY SUBANGULAR QUARTZ GRAINS PYRITIC 163.00
	(1.45)	1.45					0.10	SANDSTONE LIGHT GREENISH GRAY, HARD, CALCAREOUS, GLAUCONITIC, SPARSELY PYRITIC, FEW SHALE LAMINATIONS & SPECKS OF CARBONACEOUS MATTER 163.10
							0.62	SANDSTONE, wit few shale laminations, light gray to gray, Sandstone glauconitic. Fine grained, Mostly subangular quartz grains Sparsely pyritic Shale slickensided with few specks of carbonaceous matter. 163.72
							0.15	SANDSTONE, Light greenish gray hard, calcareous, glauconitic FINE TO MEDIUM GRAINED. ABUNDANT FOSSIL FRAGMENTS 163.87
	164.20						0.33	SHALE SILTSTONE INTERLAMINATED, GRAY, FOSSILIFEROUS, SLICKENSIDED 164.20
164.20							0.50	SHALE SILTSTONE INTERLAMINATED, Gray to Dark gray, Small fossil fragments. Few specks of Carbonaceous matter Sparsely pyritic. Contains few siderytic nodules. 164.70
							0.62	SILTSTONE, Gray, Comparatively hard, Abundant fossil fragments, Calcareous, Glauconitic, muddy. Few hard Calcareous bands with clusters of fossil fragments & Coarser mate 165.32
							0.35	CLAYSTONE, Slickensided, Brownish grey. 165.67
	(3.05)	3.05					1.53	SHALE SILTSTONE interlaminated light gray At places slickensided. Few nodules of light brown coloured heavier material 167.20
	167.25						0.05	MUDSTONE Dark Gray, Pyritic Contains lenses of fine sand 167.25
167.25							0.05	MUDSTONE, Grayish black. Pyritic 167.30
	(2.95)	2.90					2.85	SANDSTONE Light gray, fine grained, Glauconitic. Dominantely subangular few subrounded quartz grains Thin laminations of Carbonaceous mud at few places Few thin coaly laminations 170.15
	170.20						0.05	CORE LOSS 170.20

Zaman. M. Khan

Form 3a

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DRILL-HOLE NO. UAL-15

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								170.20
170.20	(0.65) 170.85	0.10					0.55	CORE LOSS 170.75
							0.05	SAND, ABOUT 95% QUARTZ GRAINS MOSTLY SUBANGULAR FINE GRAINED VERY LIGHT GRAY ABOUT 2% BLACK OR GREEN GRAINS 170.80
170.85							0.05	SANDSTONE GRAYISH BLACK HIGHLY MUDDY FINE GRAINED SAND LIGHT GRAY FINE TO MED GRAINED SUBANGULAR TO SUBROUNDED QUARTZ GRAINS 170.85
					1		0.37	FEW CARBONACEOUS LAMINATIONS RARELY WITH COALY MATERIAL 171.22
							0.20	SHALE SANDY WITH SAND LAMINATIONS DARK GRAY, PYRITIC, RESINOUS FEW COALY PARTINGS 171.42
							0.48	SHALE Grayish black with few very thin, very fine sand laminations slightly carbonaceous, Pyritic, resin globules common 171.90
	(2.50) 173.35	2.50			2		0.37	Fine Sand Shale interlaminated, Gray, resin globules common Sparsely pyritic. 172.27
					3		1.08	SHALE carbonaceous, Grayish black, Rooted, Roots replaced by fine grained pyrite. Slickensided at few places, Impressions of plant matter, usually replaced by fine grained pyrite Few yellowish orange resin globules Fissility marked 173.35
173.35							0.23	CORE LOSS
					17½		0.63	
							2.00	SILTSTONE, Gray, muddy, At places pyritic and Glauconitic, contains in the middle part harder and lighter coloured nodules of silty and glauconitic material. Few globules of resin At few places thin laminations and specks of Carbonaceous material 175.98
175.58	(2.83)	2.20			5		0.05	COAL BLACKISH BROWN BANDED, ABUNDANT PYRITE LAMINATIONS 176.03
	176.18				6		0.15	MUDSTONE, Gray, abundant carbonised plant fragments. Patches of very fine grained pyrite. One resin globule 176.19
176.18							1.80	MUDSTONE, Gray, Patches of fine grained pyrite common At few places carbonised plant fragments, Silty, Contains few nodules of heavier light brownish material, Grades into Siltstone
	(3.01) 179.19	3.01			8		1.21	SILTSTONE, Gray, sparsely pyritic. Contains scattered coaly specks. At places few resin globules, Contains few nodules of light brownish coloured heavier material probably siderite. Siltstone muddy at places. 179.19
179.19					9		0.10	SILTSTONE, Gray, muddy, pyritic, Resinous. 179.29
					0			MUDSTONE
					1			CONTINUED
					2			

Form 3a

DRILL-HOLE NO UAL-15

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION (Contd)
	(3.01)	3.01			1		1.76	MUDSTONE, Gray with thin laminations of fine sand & silty, sparsely pyritic, resinous and rooted
	182.20							181.05
							0.10	SHALEY COAL, BANDED, PYRITIC, RESINOUS, BROWNISH BLACK THIN LAMINATIONS OF FINE SAND 181.15
					2		1.05	CLAYSTONE, Light bluish gray 5B 7/1 Rounded sand size grains scattered throughout the rock Rooted near the top. Very sparsely pyritic 182.20
182.20	(1.55)	0.90					0.12	CLAYSTONE LIGHT GRAY, SLICKENSIDED, SPARSELY PYRITIC AND RESINOUS ABUNDANT CARBONISED PLANT FRAGMENTS 182.32
							0.13	CARBONACEOUS CLAYSTONE, DARK GRAY, PYRITIC, SLICKENSIDED. RESINOUS ROOTED. FEW THIN COAL LAMINATIONS 182.45
					3		0.22	MUDSTONE LIGHT GRAY, PYRITIC CONTAINS THIN LAYERS OF COALY AND CARBONACEOUS MATERIAL 182.67
							0.43	CLAYSTONE, LIGHT GRAY, SLICKENSIDED, SPARSELY PYRITIC & ROOTED 183.10
	183.75						0.68	~~COAL~~ → 183.10 ~~183.05 TO 183.73~~ 183.75 (183.75) END
					4		68 cm	COAL 68 cm C5 183.78

Note:-
UAL-15-2
[see sample data form]

73
05
.68

NOTE!
HOLE WAS ABANDONED DUE TO KIDNAPPING AT UAL-13. CORE WAS STUCK IN BARREL. AT A LATER DATE IUCC RETURNED CORE WHICH WAS COAL SAMPLE UAL-15-2

Form 3a

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DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								0.0
0.0	2.0	NON CORING			1–2		2.0 m	ALLUVIUM 2.0
2.0	4.0	NON CORING			3–4		2.0 m	ALLUVIUM METING SHALES 4.0
4.0	6.0	NON CORING			5–6		2.0 m	Sandy shale: Pale Yellowish orange, 10YR 8/6. loose & friable fine grain Sand, Calc, micaceous 6.0
6.0	8.0	CORING			7–8		2.0 m	Sand stone: Pale Yellowish orange, 10YR 8/6, V. Fine to fine grain, poorly sorted, calc. micaceous. Sub-rounded to rounded, loosely cemented. 8.0
8.0	10.0	NON CORING			9–10		2.0 m	Sand stone: Same as above 10.0
					1–2			

Form 3b

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								10.0
10.0	12.0	NON-CORING			11		2.0 m	Silty claystone: Greyish orange, 10 YR 7/4, slightly silty and sandy, calc, semi-compact.
								12.0
12.0	14.0				13		2.0 m	Silty claystone: Same as above
								14.0
14.0	16.0				15		2.0 m	Sandy shale: Greyish orange 10 YR 7/4, calc soft & friable.
								16.0
16.0	18.0				17		2.0 m	Sandstone: Very light grey N 8. Fine to medium grained, sub-angular to sub-rounded, micaceous loose & friable, calc.
								18.0 SONHARI BED
18.0	20.0	NON-CORING			19		2.0 m	Sand/Gravel: Pale yellowish brown, 10YR6/2 course grained, abundant quartz grains, slightly calc. rounded to sub rounded, clayey, conglomeratic
								20.0

DRILL-HOLE NO UA57

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								20.00
20.0	22.0	NO CORING			21		2.0 m	Limestone: Pale yellow orange 10YR8/6 hard, compact, sandy, highly fossiliferous
								22.00
22.0	24.0	NON-CORING			22 23		2.0 m	some as above
								24.00
24.0					24		1.0 m	some as above.
					5			25.00
	26.0						1 m	SILTSTONE: Med bluish grey 5B5/1, semi hard compact, silty, sandy clayey.
								26.00
26.0					26			some as above.
	28.0	NON-CORING			27		2.0 m	
								28.00
28.0					28			some as above.
	30.0				29		2.0 m	
								30.00
					30			
					1			
					2			

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								30.00
30.0	32.0				31		2.0 m	same as above.
					32			32.00
32.0	34.0	NON-CORING			33		2.0 m	same as above
					34			34.00
34.0	36.0				35		2.0 m	same as above.
					36			36.00
36.0	38.0	NON-CORING			37		2.0 m	Siltstone: Medium bluish grey 5B5/1 Brownish black 5YR2/1, semi hard compact, silty, sandy, clayey at places.
					38			38.00
38.0	40.0	NON-CORING			39		2.0 m	
					40			40.00

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RECOVERY CORE	CORE RECOVERY CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40	42	ROTARY			41			Siltstone, same as above
42	44				42			Siltstone, light gray (N7) as above, non calcareous
44	46				43			
					44			
					45			Siltstone, same as above
46	48				46			
					47			Siltstone, same as above
48	49.96	ROTARY			48			
					49			Siltstone, same as above
								49.96
49.96					50			Begin core
					1			
					2			

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								50.00
	52.96	3.0	100%		51 52 53		3.0 m	Siltstone: Greenish black 5G 2/1, Semi hard semi compact, pyritic, micaceous, very fine grain, very thin sandy layers, at places slightly clayey, Glauconitic, non calc, Sand percentage increases at base.
52.96	55.55	(2.59) 2.95 2.59	100%		54 55		2.95 m	52.96 Sandstone: Greenish black 5G 2/1, very fine to fine grain. moderately sorted, Sub-angular to Sub-rounded, noncalc. at places silty & clayey animal burrows, pyritic. resins, micaceous Glauconitic 55.55
55.55	57.20	(1.65) 1.65	100%		56 57		0.72 0.93	Sand stone Same as above 56.27 Sandstone: Dark greenish grey 5GY 4/1, Semi hard, Semi Compact, fine grained, Sub angular to Sub rounded, Shell fragments non calc. Pyritic, resins, clayey at places, Glauconitic, carbonaceous clay Percentage increases at base. 57.20
57.20		(2.90) 2.90	100%		58 59 60		0.96 0.12 1.76	Sand stone: 5GY 4/1 Same as above. 58.16 Calc. Sandstone: Medium bluish grey 5B 5/1, hard and Compact, V. fine grain. Calc, massive, Shell fragments (rare), resins 58.28 Sandstone: Dark grey N3, semi hard, semi-compact, fine to sub-angular to sub-rounded, non calc. pyritic, shell fragments, micaceous, resins, carb. silty & clayey at places, Glauconite 60.04 Contd Contd

DRILL-HOLE NO WAS-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60.10	60.10						0.06	
							0.08	Sand stone: Med grey N5, hard & compact fine gr. calc. gypsum viens, ? black minerals, rare shell frag. 60.10
							0.70	Sand stone: N5 same as above 60.18
					61		0.10	Sand stone: Dark grey N3, semi-hard, semi-compact, fine gr. sub-angular to sub-rounded, non calc. pyritic, shell frag. carb., at places silty & clayey. 60.88
	(3.00)	2.50	80%					Sand stone: Med. grey N5, hard & compact, fine gr. calc gypsum viens rare shell frag. 60.98
					62		1.62	Sand stone: Dark grey N3, semi-hard, semi-compact, fine grained, sub-angular to sub-rounded, non calc. pyritic shell frag. micaceous, resin, carb. at places silty & clayey, Glauconitic 62.60
	63.10				63		0.50	Core loss at base as above. 63.10
63.10								SAND STONE: N3, same as above. Gypsum viens present from 64.32 to 65.12 (0.80) rest is same as above.
	(3.05)	3.05	100%		64			
					65		3.05	
	66.15				66			66.15
66.15								SAND STONE:- Dark grey N3, semi-hard, semi-compact, animal burrows, fine gr. sub-angular to sub-rounded, shell fragments, non calc., resin, carb. Glauconite, silty & clayey at places ? black minerals, plant roots. 67.45
	(3.05)	2.95	95%		67		1.30	
					68		1.65	LIME STONE:- Bluish white 5B 9/1, hard & compact, highly fossiliferous, gypseous, slightly sandy, sand nodules at places, chalky, 69.10
								Core loss at base hrt. as above. 69.20
	69.20				69		0.10	LIMESTONE 5B 9/1 Same as above 69.28
69.20							0.08	FOSSIL HASH: Light bluish grey 5B 7/1, hard & compact calc. full of fossils, animal burrows, Glauconite
					70			

CONTD -

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.00)	3.0	100%		70			
					71		2.92	FOSSIL HASH
	72.20				72			72.20
72.20	(3.05)	3.05	100%		73		3.05	FOSSIL HASH: Same as above 5B7/1
	75.25				74			
					75			75.25
75.25	(3.05)	3.05	100%		76		1.40	FOSSIL HASH:- Same as above.
								76.65
							0.16	SANDY CLAYS:- Dark greenish grey 5G4/1, semi-hard, semi-compact, pyritic, slightly calc. Glauconite, shell frag. concoidal fracture, plant roots slightly sandy.
					77			76.81
								FOSSIL HASH:- Same as above 5B7/1
	78.30				78		1.49	78.30
78.30	(3.10)	2.96						FOSSIL HASH: Same as above 5B7/1
					79		1.63	
								79.93
					80			↘ Siltstone (contd) -

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
		2.96	95%		80			SILT STONE: Olive black 5Y 2/1, semi-hard, semi-compact sandy & clayey, pyritic, animal burrows, sand is very fine gr., sand nodules, rarely shell frag. non calc.
					81		1.33	81.26
	81.40						0.14	Core loss at base silt stone same as above. 81.40
81.40								SILT STONE: 5Y 2/1, Same as above, very thin sandy layers at places, clay % age increases towards base, carb. % age very high at base.
	(3.05)	2.55	84%		82		2.55	83.95
					83			Core loss at base silt stone as above. 84.45
	84.45				84		0.50	SILTY CLAYS:- Olive grey 5Y 4/1, semi-hard, semi-compact, at places sandy, fossiliferous, more fossils at base, non calc. animal burrows, concoidal fracture. 85.40
84.45					85		0.95	
	(3.10)	2.94	94%		86		1.99	FOSSIL HASH: Light bluish grey 5B 7/1, semi-hard, semi-compact, full of fossils, calc. at places, quartz gr. in abundance, 87.39
	87.55				87		0.16	Core loss at base Fossil hash as above 87.55
87.55								Core loss from top Fossil hash as above.
	(1.75)	0.95	54%		88		0.80	88.35
					89		0.95	SANDY LIMESTONE: Light bluish grey, 5B 7/1, hard & compact, highly fossiliferous. 89.30
	89.30							
89.30					90			SILTY CLAYS Olive grey 5Y 4/1, semi-hard, semi-compact, rare shell frg.,

Contd —

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(4.45) 90.75	1.45	100%				1.45	contd from previous page. pyritic, plant roots, non calc., carb., slightly sandy & silty. 90.75
90.75	(1.65) 92.40	1.57	95%		91		1.04	Silty clays: Olive grey 5Y 4/1, semi hard, semi compact & shell fragments carb. pyritic, slightly sandy, non-calc 91.79
					92		0.32	Silty clays: 5Y 4/1 & light bluish grey 5B 7/1, semi hard & semi compact: highly fossiliferous, slightly calc. pyritic Carbonaceous, forams. 92.11
							0.21	Sandy Limestone: Light bluish grey 5B 7/1, Hard & Compact; highly fossiliferous; forams 92.32
							0.08	CORE LOSS AT BASE OF LIMESTONE AS ABOVE 92.40
92.40	(1.40) 93.80	1.40	100%				0.46	Sandy Limestone: Light bluish grey, 5B 7/1, hard & compact highly fossiliferous forams 92.86
					93		0.20	SILTY CLAYS: Light bluish grey 5B 7/1, semi-hard, semi-compact, highly fossiliferous, forams, slightly calc & sandy. 93.06
							0.74	SILTY CLAYS: Olive grey 5Y 4/1, semi-hard, semi-compact, animal burrows, shell frag. non calc. plant roots, pyritic, at places sandy. 93.80
93.80	(1.60) 95.40	1.50	93%		94			
					95		1.50	SILTY CLAYS: Greenish black N2, semi-hard, semi-compact, animal burrows, shell frag. non calc. sandy patches, pyritic, carb. at places sandy layers & nodules, silt & age increases in the lower part, pyritic, clay glands, ferruginous concretions 95.30
							0.10	Core loss at base silty clays as above. 95.40
95.40	(2.20) 97.60	1.77			96		1.30	Silty clays: Grayish black N2, same as above 96.70
								Silty clays: Light bluish grey 5B 7/1, semi hard & semi compact very highly fossiliferous (forams) slightly calc, pyritic. 97.17
					97		0.47	Core loss at base of Silty clay as above. 97.60
							0.43	Silty claystone. Olive grey 5Y 4/1 Semi hard, Semi Compact shell fragments, non-calc, pyritic at places sandy, Concoidal fracture, highly fossiliferous, slightly calc, at base forams increases 98.18
97.60	(1.35) 98.95	1.35	100%		98		0.58	Sandy limestone: light bluish grey 5B 7/1, hard & compact highly fossiliferous, mostly forams, Glauconitic, gypseous 98.95
							0.77	Sandy limestone 5B 7/1 same as above
98.95	(3.05)	3.05			99		2.96	
					100			contd
					1			
					2			

DRILL-HOLE NO. UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.05)	3.05	100%		101			(contd. from previous page)
	102.0							101.91
								Siltstone: Dark grey N3, semi hard, semi compact animal burrows, pyritic, shell fragments non calc. at places sandy 102.0
102.0	(1.60)	1.60	100%		102		0.09	Silty Clay: olive black 5Y 2/1, semi hard semi compact, concoidal fracture, shell fragments non-calc, at places sandy, pyritic. 103.60
	103.60				103		1.60	Core loss: from top of silty clay, same as above. 103.95
103.60								Silty clays: Olive black 5Y 2/1 semi hard, semi compact; broken shell fragments, pyritic, at places sandy layers, patches & nodules, highly carb, resins. 104.54
	(2.25)	1.90	84%		104		0.35	Siltstone; Greenish black 5G 2/1, semi hard, semi compact; broken shell fragments, at places clayey. slightly calc. highly fossiliferous mostly foraims animal burrows 105.30
	105.85				105		0.59	Siltstone: Olive grey 5Y 4/1, semi hard, semi compact, non calc, pyritic, shell fragments, at places sandy, carboneeous non. calc 105.85
105.85							0.76	SILTY CLAYS: Olive grey 5Y 4/1, semi-hard, semi-compact, animal burrows, pyritic, shell frogments, at places sandy, carb. non calc. 106.98
	(3.10)	3.10	100%		106		0.55	CALCAREOUS SANDSTONE:- Dark greenish grey, 5G 4/1, semi-hard & compact, highly fossiliferous calc. Glauconitic, ... 107.63
	108.95				107		1.13	SANDY LIMESTONE: Light bluish grey. 5B 7/1, hard & compact, highly fossiliferous, forams, Glauconite, (Quartzitic type), pyritic, corals, massive. 108.95
108.95					108		0.65	SANDY LIME STONE: Light bluish grey. 5B 7/1, same as above.
		2.35	77%		109		1.32	LAKHRA 109.13
							0.18	BARA
					110			↓ Contd -

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.05)	2.35			110			INTERBEDDED SAND AND SILTSTONE:- Olive black, 5Y 2/1, semi-compact, at places loose & friable, sst. fine gr. sub-angular to sub-rounded, pyritic, animal burrows, shell fragments, non calc. carb., clayey at base.
					111		2.37	111.30
							0.70	Core loss at base, Interbedded sst. + siltst. same as above
	112.0				112			112.00
112.0	(3.05)	2.15	70.4%					SILTY CLAYS: Olive black 5Y 2/1, semi-hard, semi-compact, shell frag. non calc. animal burrows, at places sandy, plant roots.
					113		2.15	114.15
								Core loss at base silty clays, same as above. 115.05
					114			INTERBEDDED SAND STONE & SILT STONE: Olive black 5Y 2/1, semi-hard, semi-compact, animal burrows, shell frag. non calc. sst is fine gr. sub-angular to sub-rounded, pyritic, at places clayey.
							0.90	117.30
115.05					115			Core loss at base Interbedded sst & silt stone same as above.
	(2.85)	2.25	78.9%		116			117.90
							2.25	SILT STONE: Olive black 5Y 2/1, semi-hard, semi-compact, fossiliferous, broken sheel pieces, non calc. pyritic, at places clayey, resin.
					117			118.66
	117.90						0.60	SAND STONE: Dark greenish grey, 5G 4/2, loose & friable, at places hard & compact, fine to med. grained, sub-angular to sub-rounded, ? black mineral, Glauconite, slightly calc. pyritic, resin, fossiliferous.
117.90	(3.00)	2.15	71.6%		118			
							0.76	
					119			
							1.39	
					120			→ Contd
					2			

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								contd from previous page
								120.05
								Core loss at base sst as above.
	120.90						0.85	120.90
								Core loss from top sst as above.
								121.82
120.90					121			SAND STONE:- Dark greenish grey 5G 4/1, loose & friable, v. fine to fine gr. sub-angular to sub-rounded, non calc. Glauconitic, resin, very rare shell frag. clayey at base, pyritic.
	(1.60)	0.68	42.5%				0.92	
	122.50				122		0.68	122.50
122.50								Total core loss sst. as above.
								124.20
	(1.70)	NIL	0.0%		123		1.70	Core loss from top sst as above
	124.20				124			125.05
								SAND STONE: 5G 4/1, same as above.
								126.00
124.20								INTERBEDDED SAND STONE & CLAY STONE: Olive grey, 5Y 4/1, semi-hard, semi-compact, carb. pyritic, resin, sst. v. fine gr. poorly sorted, non calc. animal burrows, at places shell frag. concoidal fracture.
	(1.90)	1.05	55.2%		125		0.86	
							1.00	126.10
	126.10							INTERBEDDED SAND STONE & CLAY STONE: Same as above.
126.10	126.20	0.10	100%		126		0.05	126.20
126.20							0.10	INTERBEDDED SAND STONE & CLAY STONE: Same as above.
								127.20
	(1.00)	1.00	100%				1.00	CLAY STONE: Dark grey N3, semi-hard, semi-compact, highly carb. animal burrows, sandy layers & nodules, clay glands & mud nodules, concoidal fracture, non calc. Yellowish brown silty nodules, at places silty.
	127.20				127			129.18
127.20								CALCAREOUS SAND STONE:- Medium bluish grey, 5B, 5/1, semi-hard, semi-compact, calc. highly fossiliferous, forams, Glauconitic, profusely fossil bash.
	(2.35)	2.23	94.8%		128		1.98	
								129.43
	129.55				129		0.25	Core loss at base calc. sst same as above. 129.55
							0.12	Core loss from top sst. as above.
					130			CONTD.

um=0.10

Form 3b

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							0.95	CORE LOSS. 130.50
	(3.05)	2.10	68.85%		131		0.40	SANDSTONE: Greenish black, 5GY 2/1, soft, friable, loose, slightly calc. fossiliferous, clayey, pyritic. 130.90
							0.60	CALCAREOUS SANDSTONE: Greenish grey 5GY 6/1, hard & compact, highly fossiliferous, Glauconite, fine to med. grained. 131.50
					132		1.10	SANDSTONE:- Greenish black 5G 2/1, loose & friable, fine to med. gr. fossiliferous, at places clayey, resin, Glauconite, poorly sorted 132.60
132.60	132.60							
	(2.25)	1.10	48.88%		133		1.15	Core loss from top sst. same as above. 133.75
					134		1.10	SANDSTONE:- Greenish black, 5GY 2/1, semi-hard, semi-compact, fine to med. gr. poorly sorted, angular to sub-rounded, Glauconite, forams, clayey bands, hard sst. nodules, ferruginous. 134.85
134.85	134.85							INTERBEDDED SANDSTONE/CLAYSTONE: Olive black 5Y 2/1 semi hard, semi compact, concoidal fracture, pyritic carb. animal burrows, sst. interlayered, fine grained, sub-ang to sub-rounded, non calcareous, plant roots, friable at places thin silty layers, rare shell fragments, resin 136.00
	(2.70)	2.22	82.22%		135		1.15	SANDSTONE:- Greenish black 5G 2/1, loose & friable v. fine to fine grained, poorly sorted, Glauconitic, carb. pyritic, very rare shell fragments, non calc 136.62
					136		0.62	INTERBEDDED SANDSTONE & CLAYSTONE:- Greenish black 5G 2/1, olive black, 5Y 2/1, semi hard semi compact, carb, non calc, pyritic, sst, fine grained poorly sorted. 137.07
					137		0.43	Core loss from base of sst/claystone. 137.55
137.55	137.55						0.48	INTERBEDDED SANDSTONE/CLAYSTONE. Bluish grey 5B 5/1 & olive black 5Y 2/1, semi hard & friable alternate layers, fine to med grained, moderately sorted black minerals, Glauconitic, pyritic claystone, med hard, compact, broken shell fragments pyritic, nodules, carbonaceous, resins. 139.17
137.55	(1.75)	1.62	92.57%		138		1.62	Core loss at base of sst/claystone. 139.30
	139.30				139		0.13	SANDSTONE/CLAYSTONE Bluish grey 5B 5/1 & olive black 5Y 2/1, at places fine grained sand layers changes into siltstone of light brown br. 5YR 6/1. remaining character same as above 139.64
139.30		0.84	46.15%				0.39	SANDSTONE:- Light bluish grey 5B 7/1 hard & compact, quartzitic type, in the lower part, shell fragments, calc & clayey carbonaceous. 139.84
					140		0.40	
							0.30	

(CONTD)

SANDSTONE
Bluish grey 5B 5/1, semi hard & semi compact, alternate layers of clay (interbedded) fine to med grained carb, pyritic

→ CONTD.

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								CONT'D. from previous page.
								140.14
	(1.82) 141.12	0.84			141		0.98	Core loss (from SSTone at base.) 141.12
							0.88	CLAYSTONE Olive black 5Y2/1 semi hard + semi compact at places sandy layers, carbonaceous, concoidal fractures. 141.20
141.12	(1.13) 142.25	1.08	95.5%		142		1.0	SANDSTONE Light bluish grey 5B7/1, loose + friable, fine grained, moderately sorted, ferrogenous, nodules, carbonaceous glauconitic. 142.20
							(0.05)	Core loss from SST at base. 142.25
							(0.08)	Siderite (nod) light olive grey 5Y6/1 v hard, compact vesic. pyritic, carbonaceous matter. 142.33
142.25	(1.8) 144.05	1.80	100%		143		1.10	SANDSTONE/CLAYSTONE Olive grey 5Y4/1 + olive black 5Y2/1 interbedded sandstone/claystone, loose, thin layers of sand, carb, pyritic, black mineral, semi hard + semi compact concoidal fracture. 143.43
					144		0.62	SANDSTONE Greenish black 5GY2/1 loose + friable, fine to med grained, moderately sorted, glauconitic, carb. ferruginous, clayey, black minerals. 144.05
								Core loss from top, SST is same as above 144.60
144.05	(1.45) 145.50	0.90	62.0%		145		0.55	(0.5) SILTSTONE Light olive grey 5Y6/1, very hard compact, ferru: pyritic caro. 144.65
							0.85	INTERBEDDED SANDSTONE/CLAYSTONE Olive grey 5Y4/1 + olive black 5Y2/1 interbedded sand with claystone, semi hard + compact, fine grained at places, silty bands + nodules. 145.50
145.50	(1.88) 147.38	1.88	100%		146		1.20	INTERBEDDED SANDSTONE/SILTSTONE/CLAYSTONE Olive grey 5Y4/1, Light olive grey 5Y6/1, olive black 5Y2/1, interlayering of fine grainsand, silt, claystone non-calc, black minerals, glauconitic, silty nodules + layers, clay bands interlayered. 146.70
					147		0.68	INTERBEDDED SANDSTONE AND CLAYSTONE Olive black 5Y2/1 semi hard + semi compact, fossiliferous, shell fragments, animal burrows at places, silty, pyritic alternate bands of clay + sandstone. 147.38
147.38	(1.17) 148.55	1.17	100%		148		1.17	INTERBEDDED SILT/CLAY Olive black 5Y2/1 semi hard, semi compact, interbedded silt + clay fossils + broken shell fragments, Animal burrows + pyritic 148.55
148.55		2.0	100%		149		2.0	SANDSTONE Olive black 5Y2/1 semi hard + semi compact, shell fragments at places, clay + silty bands/layers, pyritic, black minerals, glauconitic fine to med grained, poorly sorted, at places layers of silt + clay.
					150			CONT'D

Form 3b

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	150.55							150.55
150.55	(1.05) 151.60	1.05	100%		151		1.05	INTERBEDDED SILTSTONE/SANDSTONE/CLAY Olive black 5Y2/1 Greenish grey 5GY6/1 Thin layer of silt sand, clay, fine grain, semi hard, semi compact Glauconite + black minerals, silt % age increase, sand stone interbedded siltstone at places semi compact Thin layers of sandy clay. 151.66
151.60	(1.80) 153.40	1.80	100%		152		0.85	INTERBEDDED SANDSTONE + CLAYSTONE Light grey N7, olive black 5Y2/1 semi hard, semi compact pyritic, resin, fissile, plant roots, sst fine grained angular to sub-angular, poorly sorted, carbonaceous thin coaly partings, v. rare, non calc. 152.45
					153		0.95	CLAYSTONE: olive grey 5Y4/1, semi hard, semi compact fissile, pyritic, resin, carbonaceous, concoidal fracture at places sandy + silty, non calc. 153.40
153.40	(1.80) 155.20	1.80	100%		154		0.68	CARBONACEOUS SHALE Greyish black N2, semi hard semi compact, highly carb, fissile, pyritic, resin, interlayered fine grained sand, non-calc, plant roots, very rare coaly partings 154.08
					155		1.12	CLAYSTONE: Olive grey 5Y4/1 semi hard, semi compact concoidal fracture, carb, pyritic, resin, non calc sandy patches at places, animal burrows. 155.20
155.20	(2.40) 157.60	2.40	100%		156		2.40	INTERBEDDED SANDSTONE/SILTSTONE/CLAYSTONE Light grey N7, olive black 5Y2/1, semi hard, semi compact, sst is fine grained, angular to sub-angular pyritic, carb. non calc, resin, animal burrows.
					157			157.60
157.60	(1.40) 159.0	1.40	100%		158		1.40	INTERBEDDED SILTSTONE/CLAYSTONE Same as above? in lower part (0.08m) clay % age is high + mixed with gravel ~~sub rounded to rounded~~. more quartz grain, pebbles are well rounded, sharp contact at top + base. 159.0
159.0	(1.65)	1.65	100%		159		1.65	CLAYSTONE Olive grey 5Y4/1, semi hard, semi compact concoidal fracture, carb, pyritic, resin sandy patches, animal burrows, non calc fissile, at places silty.
					160			

DRILL-HOLE NO WAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	160.65							160.65
160.65	(1.20)	1.20	100%		161		1.20	CLAYSTONE:- olive grey 5Y 4/1 & med dark grey N4, same as above. 161.85
161.85	(1.80)	1.10	61.11%		162		0.64	CLAYSTONE:- med dark grey N4, semi hard, semi compact, carb. animal burrows, slight sandy non-calcareous, pyritic, concoidal fracture, very rare shell fragments at base. 162.49
							0.46	Sandstone (silica sand) med grey N5, fine to med grained, rounded to sub-rounded, g/g grain in abundance, loose & friable, rare ferruginous patches sugary, animal burrows, very thin carb. layers at places. 162.95
	163.65				163		0.70	Core loss at base, SST as above.
163.65	(1.85)	1.63	88.10%		164		1.63	163.65 SANDSTONE (SILICA SAND) as above
	165.50				165		0.88	CORE LOSS AT BASE SST as above. 165.28
165.50	(1.20)	1.14	95%		166		1.14	165.50 SANDSTONE AS ABOVE (SILICA SAND)
	166.70						0.06	166.64 Core loss at base Silica Sand as above. 166.70
166.70	(1.48)	0.75	50.67%		167		0.75	SANDSTONE (SILICA SAND) name as above. 167.45
	168.18				168		0.73	Core loss at base, SST as above. 168.18
168.18	(1.75)	0.57	32.57%		169		0.57	SANDSTONE (Silica Sand) as above 168.75
	169.75						1.0	Core loss at base, SST as above. 169.75
169.75					170			Core loss → (CONT'D.)

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(1.80) 171.55		0.0		171		1.80	Core loss, sst as above. (Total c.loss) (Silica Sand)
								171.55
171.55	(1.20) 172.75	0.45	37.5%		172		0.43	SANDSTONE:- SILICA SAND Light grey N7, loose + friable, med to coarse gr, sub-rounded to rounded at places, very thin carb layers. quartz grains in abundance massive.
							0.02	171.98
								HIGHLY CARBONACEOUS SHALE:- Greyish black N2, semi compact, laminated, coaly trace, plant root thinly bedded
							0.75	172.00
								Core loss at base, probably highly carbonaceous shale/sst
172.75	(1.35) 174.10	1.30	96.29		173		0.50	172.75
								SANDSTONE:- medium light grey N6 loosely cemented fine grain well sorted, rounded, clean sand, Qtz upto 80%, at places slightly shaley, and thin coaly partings. 5% black minerals.
					174		0.80	173.25
								SANDSTONE:- Medium greenish grey 5G 6/1, loose + friable fine to med, rounded, well sorted, clean sand Qtz upto 90%. 5% b.m
							0.5	174.05
								Core loss from base of above sst.
174.10	(1.65) 175.75	1.26	76.37%		175		1.26	174.10
								SANDSTONE:- Light olive grey 5Y6/1, loose, fine grained, rounded, well sorted, clean sand 85% Qtz at places, very fine coaly layers 5% black minerals
								175.36
								Core loose from of above sst.
							0.39	175.75
175.75	(1.10) 176.85	1.10	100%		176		0.75	SANDSTONE, Some as above.
								176.50
								SANDSTONE: med grey N5, loose, fine grain, sub-rounded moderately sorted, clean sand upto 80% quartz grain at places thin layers of coaly partings. gradually increase towards base.
							0.35	176.85
176.85	(3.05) 179.90	3.05	100%		177		1.45	Sandstone: Light grey N7, loose, fine grain, rounded well sorted Qtz grain upto 90% clean sand, 5% black minerals
					178			178.30
					179		1.60	Sandstone medium grey N5, loose, fine grain rounded well sorted Qtz grain upto 80% clayey, carbonaceous layers + coaly partings. black minerals
179.90					180			179.90

Contd

Form 3b

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(1.90)	1.30	68.42%		181		1.30	SANDSTONE:- Light grey N7 loose fine grain rounded, well sorted clean sand upto 90% Quartz grains. 5% black minerals.
	181.80							181.20 core loss from base, sst as above.
							0.60	181.80
181.80					182		0.60	core loss from top, sst as above. 182.40
	(3.00)	2.40	80%		183		2.0	Sandstone Light grey N7 same as above.
	184.80				184			184.40
							0.40	SANDSTONE Medium dark grey N4 loose, fine grain, well sorted, rounded, fine layers coaly partings 10% carbonaceous matter & clayey 184.80
184.80					185		1.95	SANDSTONE:- Light grey N7 loose, fine grain rounded, well sorted, rare coaly partings & thin carbonaceous layers at places.
	(3.2)	1.95	65%		186			186.75
								core loss from base of sst, same as above.
					187		1.10 (1.05)	187.85
	187.85							0.03 Core loss from top sst (silica sand) as above
187.83								187.88
	(1.05)	0.97	92%		188		0.77	Sandstone:- Light grey N7 fine to med grain, ang to sub-ang loose, friable, poorly sorted carb. clean sand upto 95% 188.60
	188.85						0.25	Siltstone / silty clays. upper part (0.06) olive grey 5Y 4/1 hard, compact siltstone, massive, pyritic? black minerals, non-calc
188.85					189			olive black 5Y 2/1 silty clay interlayered, semi hard, semi compact, carb., pyritic, fissile, plant roots, black partings, clay, sandy patches, sand is fine grained, resin, animal burrows, silicannide.
		1.34	100%				1.34	188.85
					190			CARBONACEOUS SHALE:- Olive-black 5Y 2/1 semi hard, semi compact, highly carb., pyritic, resin, fissile, plant roots, clayey, silicannide, sandy patches, animal burrows, coaly partings sand % increase towards base. sand is fine grained.

Form 3a

-217-

DRILL-HOLE NO UA51

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	190.19							190.19
190.19	(2.65) 192.84	2.29	86.41%		191		2.29	INTERBEDDED SANDSTONE/SILTSTONE/CLAYS. Olive black 5Y2/1, semi hard, loosely compact, carb pyritic, resin, clayey fissile at places, more sandy towards base, sand 1.75, fine grained, animal. 192.48 core loss from base interbedded claystone as above. 192.84 SANDSTONE: Light grey N7 loosely cemented, fine grained, sub-angular to sub-rounded, well sorted, clean sand upto 85% carb. coaly traces. 192.99
192.84	(0.80) 193.64	0.80	100%		192		0.36	INTERBEDDED SANDSTONE AND SILTSTONE Olive black 5Y2/1 semi hard, compact, animal burrows very thin coaly films, pyritic, resin, sst fine grained coaly flakes at places, clayey 193.64
							0.15	(0.2) Carbonaceous shale: olive black 5Y2/1 semi hard compact, laminated, pyritic, sandy patches. 193.66
					193		0.65	BLACK SHALE: Dark grey N3 semi hard, compact, interlayered fine sst: carb. pyritic, resin, coaly partings, at places about 0.01 - 0.02, very hard, compact. sst of med dark grey N4 color fine grained, thin coaly films at places, animal burrows resin, clayey, slikenside, fissile. clay % increase to increase at base. 194.44
193.64	(0.80) 194.44	0.80	100%		194		0.78	(0.06) BLACK SHALE: - Same as above 194.50
								CLAYSTONE: - Medium dark grey N4, semi hard, compact carb, pyritic, wood debris, slightly silty, animal burrows slikenside, at places sandy patches. 195.40
194.44	(1.80) 196.24	1.80	100%		195		0.90	(0.04) Siltstone: - olive grey 5Y4/1 hard & compact, black partings (Siderite nodule) 195.44
							0.40	Claystone: - Medium dark grey N4, semi hard, compact, interbedded of sand, pyritic, carb, slikenside, animal burrows fissile, wood debris, more sandy towards base. 195.84
					196		0.40	SANDSTONE: - Dark grey N3, compact, fine to med grained poorly sorted, angular to sub-angular, intercalatid with clay matrix resin, coaly partings at places. carbonaceous. 196.24
196.24	(3.80) 199.24	2.18	72.66%		197		1.25	(0.07) Sandy claystone: - med dark grey N4 semi hard, compact fine sand grains, pyritic, carb, resin, black partings (Siderite) 196.31
								(0.05) olive grey 5Y4/1 hard, compact, pyrite crystal, wood debris 196.36
								SANDYCLAYSTONE: - Med dark grey N4, semi hard, compact interlayered, fine gr: sand, pyritic, animal burrows, carb black partings (0.03) hard band of siderite in between. 197.61
							0.17	SANDSTONE: - med dark grey N4, loosely cemented, fine to med gr poorly sorted, sub-angular to sub-rounded, carb, clayey matrix 197.78
							0.17	Sandy claystone: - Dark grey N3, semi hard, compact, interlayered fine grained sand, carb 197.95
					198		0.15	SANDSTONE: - Med dark grey N4, loosely cemented, fine to med gr. sub-angular to sub-rounded, carb, clayey matrix, poorly sorted 198.16
								Sandstone: - olive grey 5Y4/1, hard, compact, pyritic, carb, coaly flakes fine to med grained sub-ang: sub-rounded, silty 198.15
							0.87	Sandstone: - med. dark grey N4 loose & friable, fine to med grained sub-angular to sub-rounded, carb, clayey matrix, poorly sorted.
							0.82	core loss at base from sst as above. 198.62
					199			199.24
199.24	(3.10)	1.50	48.38%		200		1.50	SAND STONE: - Dark grey N3, med light grey N6, loose and friable, silica sand, fine to med grained, sub-angular to sub. rounded, poorly sorted, upper bar as is highly carb with clayey matrix, pyritic, ferruginous. Clean sand upto 80%.

DRILL-HOLE NO UAS-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								200.74
					201			core loss at base of SST, as above.
							1.60	202.34 (0.10) Carbonaceous shale:- olive black 5Y 2/1, semi hard fine lamination of sandstone, clean sand 30% fine grained angular to sub-angular, coaly films, wood pyritized, resin gimlet.
	202.34				202			202.44 Silty claystone:- med grey N5, semi hard & compact animal burrows, plant roots, sandy patches, sand is fine grained 10% sub-rounded, carb. patches, pyritic plant debris, coaly flakes, poorly sorted.
202.34							0.67	203.11
	(3.00)	0.77	25.66%		203			core loss from base, silty claystone as above.
								205.34 SANDSTONE:- Light grey N7, loose & friable, fine, friable fine gr, sub-rounded, well sorted, quartz grained 85% black minerals 5% very slightly carb. matter.
					204		2.23	
								206.66 core loss at base of SST as above.
	206.34				205			
205.34								208.39 SANDSTONE:- same as above.
					206		1.32	
	(3.05)	1.32	43.27%					209.47 SANDSTONE:- same as above.
					207		1.73	
	208.39				208			
208.39								
	(3.00)	1.08	35.40%		209		1.08	
					210			

DRILL-HOLE NO UA51

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					210			210
	211.39				211		1.92	Core loss at base, sst same as above. 211.39 SANDSTONE:- same as above 212.44
211.39	(1.80) 213.19	1.05	58.33		212		1.05	Core loss at base, sst same as above 213.19 Core loss at top, sst same as above. 213.74
213.19	(1.20) 214.39	0.65	54.16°		213		0.75	SANDSTONE:- same as above. 214.39 SANDSTONE:- Light grey N7, weathered, fine to med grained, sub-rounded, moderately sorted, loose to friable, clean sand 90%, 5% black minerals. 215.09
					214		0.55	
							0.65	Core loss at base, sst same as above. 217.44 Core loss from top, sst same as above. 218.03 SANDSTONE:- (Silica sand) same as above. 218.74 (0.6) CARBONACEOUS SANDYCLAYSTONE Dark grey N3, semi hard, compact, highly carb + coaly partings, pyritic, sandy patches Resin, wood pyritized. 218.80
214.39	(3.05) 217.44	1.50	49.18°		215		1.50	
					216		1.55	
					217			
217.44	(1.30) 218.74	0.71	54.61°		218		0.59	(0.6) COAL:- Brownish black 5 YR 2/1, brownish black streak, semi hard, compact dissiminated crystal + pyritic veins are common, wood pyritized, resin, clayey partings at places.
							0.71	
218.74	(1.00) 219.74	1.0	100%		219		0.94	219.74 (0.07) Carbonaceous shale:- Dark grey N3, semi hard, compact, coaly partings + fine layers at places, sandy patches, resin, pyritic (core looks grinded) 219.81
219.74					220			Sandy claystone (Contd)
					1			
					2			

DRILL-HOLE NO IIAS1

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(0.75) 220.49	0.75	100%		220		0.68	SANDY CLAYSTONE :- dark grey N3 (core look grended). semi hard, compact, pyritized wood, coaly partings & thin layers at places, wood debris, fine grained sand lamination through out, sand increase towards base.
220.49							0.25	220.49
	(1.15)	0.90	78.26%		221		0.20	Core look from top of sandy claystone. Same as above.
	221.64						0.76	220.74
							0.36	Sandy claystone :- dark grey N3, nodrelli nodules
							0.22	220.96
							0.10	Sandstone :- med dark grey N4 hard, compact, calcite veins animal burrows size (0.06) fine gr, wood pyritized
221.64								Sandy claystone :- dark grey N3 hard, compact, pyritized 221.06
	(0.65) 222.29	0.65	100%		222		0.55	wood debris, carb, sand % increase towards base.
								221.42
								Sandstone :- med dark grey N4 hard, compact very fine grained, calcite veins, animal burrows carb.
222.29							0.50	221.64
								Sandstone :- light grey N7, loose friable, fine grained sub-rounded, moderately sorted clean sand 80% silica. 5% black minerals 1% carb matter
					223		0.70	Claystone :- med dark grey N4, semi hard, compact at 221.74
								places sandy & silty, pyritic, carb. matter 2% pyritized wood
								Claystone :- medium dark grey N4 semi hard, compact, sandy, silty bands 222.29
	(3.00)	3.0	100%					& layers, pyritic, carbonaceous matter 2%. 222.79
							0.59	Claystone :- Same as above, only carb & coaly partings increase upto 5%
					224			carbonaceous shale :- brownish black 5YR2/1, semi hard 223.49
								highly carb & coaly partings, wood pyritized, resin.
								224.08
								Claystone :- medium dark grey N4, same as above.
							1.21	225.29
								Claystone :- med grey N5, semi hard, pyritic, slickenside in lower part coaly partings.
					225			225.50
								COAL :- Brownish black 5YR2/1 flaky, highly resin, pyritic dull lustre, clay lamination at places 225.72
225.29							0.21	SILTY CLAYSTONE :- Olive grey 5Y4/1 semi hard, patches & lamination of sand & silt, wood debris, pyritized, carb. matter 2%
							0.22	animal burrows filled with fine sand 226.00
	(1.30)	1.30	100%				0.48	Carbonaceous Shale :- olive black 5Y2/1 semi hard, highly
					226		0.08	carb & coaly partings, wood pyritized, resin, animal burrows filled with 226.08
	226.59						0.51	fine sand
								Claystone :- light grey N7, semi hard, coaly flakes & carbonaceous matter 5%, slickenside, pyritic, resin. 226.59
226.59							0.35	COAL :- Brownish black 5YR2/1, blocky, resin, pyritic, clay lamination, brownish black streak, dull lustre. fusain 226.94
							0.11	Black shale :- olive black 5Y2/1, semi hard, wood debris, wood
					227		0.10	pyritized, coaly partings, animal burrows filled with fine grain sand, fissile, laminated, sandy towards base. 227.05
								Sandstone :- med dark grey N5, semi hard, interlayered with thin layers of
							0.57	clay, coal & wood pyritized, fissile, coaly partings, very fine grained 227.15
								Claystone :- dark grey N3, semi hard, compact, wood pyritized
	(3.05)	3.05	100%					coaly partings, upper part sandy, animal burrows. 227.72
								COAL :- Brownish black 5YR2/1, Blocky, pyritic veins,
					228		1.14	resin, upper part is slightly clayey, bands of sub-vitrain & durain, brittle 228.86
								Silty claystone :- olive black 5Y2/1 semi hard, wood & plant
								debris, pyritized, fissile, coaly & carbonaceous partings 1%
								wood pyritized, carbonaceous % increase in lower part 229.32
								0.02 COAL :- Brownish black 5YR2/1 flaky, pyritic, resin
								sub-vitrain. 229.34
					229		0.46	0.03 Carbonaceous Claystone :- Olive black 5Y2/1, coaly
								flakes, animal burrows, resin, slickenside 229.37
	229.64							COAL :- Brownish black 5YR2/1, flaky, pyritic, brittle
							0.27	clayey lamination, bands of sub-vitrain & durain at
229.64								places carb shale bands. 229.64
		3.05	100%				0.69	COAL :- Same as above.
					230			

CONTD.

Form 3a

DRILL-HOLE NO UA3.2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					230			COAL: same as above (cont) 230.33
							0.15	Carbonaceous shale:- Brownish black 5YR 2/1 highly carb, throughout wood pyritized, cooly bands, animal burrows filled with fine gr sand, sandy patches + lamination, plant debris, pyrite. 230.48
							0.54	Sandy clay stone:- med light grey N6, semi hard, compact, concoidal cooly partings + carb matter 1% animal burrows. 231.02
		3.05	100%		231			Sandstone:- light bluish grey 5B7/1 semi hard, semi compact very fine grain, sub-rounded, well sorted at places, slight carb layers + cooly partings, animal burrows, clayey matrix, loosely cemented towards base. 232.69
							1.67	Sandstone:- Light grey N7, semi hard, compact, fine grain, sub-rounded, carb layers + cooly partings at places, clayey matrix lower part, loose + friable. 233.65
233.69	233.69							Core loss at base from sandstone, same as above
	(1.50)	0.96	64%		233		0.96	Sandstone:- med grey N5, semi hard, interlayered with very fine lamination of clay, clay % increase at base. 234.19
234.19	234.19							Core loss at base from sandstone, same as above. 235.14
					234		0.54	Sandstone:- Light olive grey 5Y 6/1, loose, fine grained, sub-rounded, well sorted, weathered, clean sand, silica 85%, 5% black minerals 10% other minerals 235.69
234.19	(1.50)	0.95	63.33%				0.95	Core loss at base from sandstone, same as above. 237.24
235.69	235.69				235		0.55	
235.69					236		1.55	Sandstone:- Light olive grey 5Y 6/1, loose grained, sub-rounded, well sorted, clean sand 85%, 5% black minerals, 10% other minerals. 238.74
	(3.05)	1.55	50.82%		237			
					238		1.50	Core loss at base from sandstone, same as above. 239.74
238.74	238.74							
	(3.00)	1.0	33.33%		239		1.0	
					240			
					2			

DRILL-HOLE NO 11A51

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.20)	1.0			241		2.0	Core Loss:-
	241.74							241.74
241.74	(0.26) 242.00	0.26	100%		242		0.26	Sandstone. same as above.
								242.00

- END -

Form 3b

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0m					0			
					1		1.75	Alluvium containing mixed, clay, silt and fragments of lime stone and fossils foraths " "
	2.00				2		0.25	silt stone mixed with fragments of lime stone and fossils from overlying horizon
2.00								
					3		2.0	SILT STONE light yellowish brown (dry) & with fragments of lime stone containing forams suspended in circulating mud from overlying alluval horizon
	4.00				4			
4.00								
		NON CORING			5		2.0	SILT STONE light yellowish brown as above
	6.00				6			
6.00								
					7		2.0	SILT STONE as above
	8.00				8		0.25	8.25
8.00								
					9		1.75	LIME STONE light yellowish brown; Sandy foraminiferal assilina present
	10.00				10			

SONHARI

LAKHRA

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10.00					10		1.00	LIMESTONE as above.
	12.00				11		1.00	SHALE Light brown with foramis.
12.00					12			
	14.00				13		2.00	SHALE AS ABOVE foraminiferal
14.00		NON CORING			14			
	16.00				15		2.00	SHALE as above foraminiferal
16.00					16			
	18.00				17		2.00	Shale as above foraminiferal
18.00					18			
	20.00				19		2.00	Shale as above foraminiferal
20.00					20			

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20	22				20 – 21 – 22		2.00	SHALE as above foraminiferal
22	24				22 – 23 – 24		2	LIME STONE Light yellowish brown foraminiferal (Assilina).
24	26	NON CORING			24 – 25 – 26		0.50 24.50 1.50	Lime stone as above claystone/shale light brown with forams
26	28				26 – 27 – 28		2.0	clay stone, grey.
28	30				28 – 29 – 30		2.0	clay stone grey with lithic (lime stone) fragments probably forams. Some fragments of grey coloured carbonate (lime stone) with dark green spots.

Form 3b

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30	32	NO CORING			30 / 31 / 32		2.00	CLAYSTONE SILTY/SHALE light yellowish brown with lithic fragments of yellow colour and grey colour probably fossil fragments uppa 20-30 cms grey coloured.
32	34				32 / 33 / 34		2.00	CLAY STONE SILTY, grey, with fragments of rounded oval and flat, probably fossil fragments. forams.
34	36				34 / 35 / 36		2.00	CLAY STONE/SHALE dark grey with carbonate with lime/fossil fragments.
36	38				36 / 37 / 38		2.00	CLAY STONE/SHALE as above
38	40				38 / 39 / 40		1.00 1.00	SHALE medium dark gray. Highly calcareous and contains forams. LIME STONE light yellowish brown sandy foraminiferal

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40	42				40			~~LIME STONE as above foraminifera~~ Shale, med - lt - gray, highly fossiliferous, calc
					41		2.00	
					42			
42	44				43		2.00	SHALE light grey, Calcareous Contains Forams. Shale probably interbedded with Limestone
					44			
44	46	NON CORING			45		2.00	SHALE, Med dk gray, interbedded with limestone. Shale calcareous Contains Forams.
					46			
46	48				47		2.00	SHALE, Gray coloured, calcareous
					48			
48	50				49		2.00	SHALE Gray coloured, calcareous.
					50			

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
50	52				50 / 51 / 52		2.00	SHALE Medium dark gray, Calcareous.
52	54				52 / 52.25 / 53 / 54		0.25 1.75	SHALE. dark grey as above. LIMESTONE: light gray, sandy Contains foraus
54	56	NON CORING			54 / 56		2.00	LIME STONE light gray Sandy, glauconitic sand is fine grained.
56	58				56 / 57 / 58		2.00	MUDSTONE, Dark gray, slightly calcareous
58	60				58 / 59 / 60		2.00	MUDSTONE, Sandy, Glauconitic, slightly calcareous Fossils rare

Form 3a

-229-

DRILL-HOLE NO

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60	62				1 2		2.00	MUDSTONE Same as above 62
62	64				3 4		2.00	MUDSTONE. Silty, Sandy, Medium dark gray Highly calcareous 64
64	66	NON CORING			5 6		2.00	MUDSTONE Same as above 66
66	68				7 8		2.00	SANDSTONE Muddy silty. Medium dark gray Highly glauconitic and pyritic Fine to medium grained. Angular to subangular. Highly calcareous 68
68	70				9 0		2.00	Same as above 70
					1 2			

Form 3a

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
70	72				1 2		2.00	Same as above 72
72	74				3 4		2.00	Same as above 74
74	76	NON CORING			5 6		2.00	SANDSTONE Muddy, Highly glauconitic Medium to coarse grained Highly calcareous 76
76	78				7 8		2.00	SANDSTONE Muddy, Medium dark gray Glauconitic, Pyritic, Highly calcareous Medium to coarse grained 78
78	80				9		2.00	MUDSTONE Silty, Sandy, glauconitic, pyritic Medium dark gray. 80
					2			

Form 3a

-231-

DRILL-HOLE NO

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
80	82				1 2		2.00	SILTSTONE Medium dark gray Calcareous slightly pyritic 82
82	84				3 4		2.00	SANDSTONE Muddy, Silty, Medium dark gray. Glauconitic. Medium to coarse grained. 84
84	86	NON-CORING			5 6		2.00	SANDSTONE Medium dark gray, Fine grained Angular to subrounded, Glauconitic slightly pyritic a 86
86	88				7 8		2.00	SHALE, Dark gray. Sandy. Highly glauconitic ...pyritic. Sand is medium to coarse grained. 88
88	90				9 10		2.00	MUDSTONE. Silty, Dark gray, Glauconitic Pyritic. Sandy Sand medium to coarse grained. Angular to subangular. 90

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
90	92				90		2.00	Mudstone ... sandy & silty. dark grey highly glauconitic Sand stone medium to coarse grained angular to subangular, pyritic.
92	94				92		2.00	Mud stone same as above
94	96	NON-CORING			94		2.00	Mudstone as above
96	98				96		2.00	silt stone med dark grey, sandy pyriti ss is med to coarse grained highly glauconitic
98	99.70				98		1.70	Same as above.
99.70	100.10	0.40	0%		99.7		0.40	CLAYSTONE dk.grey N/2 to Blackish gy. Pyrite fine grained, few batches. Lower 5 Contains fossils, Bivalves. towards base small pockets of sand
					100.10			

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
100.10					101		1.53	CLAY STONE dark grey N/3 to Blackish grey N/2 (19cms from top 5cms thick Siderite? nodule, pale yellowish brown colour present. v.high specy gravity. core breaks along v. fine grained sand lamination. becomes sandy at base. Small pockets or burrows filled with sand
	103.05	2.95			102		0.89	clay and sand interlaminated (1-3 mm laminae) dominantly Sand fine grained subangular well sorted. Siderite nodule at 13cms from top. few pc. big mineral grains.
							0.63	clay stone, fine sand interlaminated 1-5mm laminae. clay stone dominant. 1-5mm thick Siderite lenses. pale yellowish. To some extent cyclic (clay/sand) deposits but varying in time span & sediment influx.
	103.15			103.05	3		0.40	Sand with thin bands of clay stone, dark grey, 1-3 cms thick. Siderite lenses/nodules? 1-2 mm thick & upto 1cm long
						X	0.10	CORE LOSS 103.05 103.15
103.13					4		1.85	CLAY STONE dark grey N/3 with small patches of fine grained pyrite and few 1-5 mm thick bands of siderite. pale yellow in colour. lower part becomes slightly sandy.
	3.05	2.85						105.00
					5		0.50	SAND STONE muddy. upper part is highly muddy. fine grained Subrounded. dominantly quartz. few black ferro mineral grains 2-3% glauconite pallets present. 105.50
					105.50		0.70	CORE LOSS in Sand Stone.
	106.20				6		0.04	CORE LOSS 106.20 105.24
106.20					106.24		1.44	SAND STONE grey to dark grey fine grained sparsely burrowed? few thin (1-4 mm) clay bands present. cross bedded 1mm thick black coloured bands of Carbonaceous matter? along bedding planes. Sand is fine grained, subrounded, consists dominantly of quartz. Glauconite 5-10% present Bi valves 2 mm to 1cm present grades downwards to Silt stone/clay st
	3.05	3.01			7			
					107.68			
					8		1.57	clay stone, Silt stone & Sand stones interlayered dominantly clay stone silt stone. clay stone/silt stone grey coloured. Sand stone light grey, fine grained. 0.1 to 1cm thick lenses of of siderite? frequent. Sand consists dominantly of quartz green mineral grains/pallets frequently seen 10-20% occasional black mineral grains.
	109.25				9			
109.25							1.64	clay stone with few thin 0.1-1cm thick Sand stone bands. 0.5 to 1cms thick siderite bands more in upper part. few shell fragments present in upper & some larger siderite nodules upto 3 cms thick present in lower part
					0		1.69	
					110.94			
					1			
					2			

Form 3b

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					110.94		0.34	CLAY STONE dark grey with Siderite nodules. highly fossiliferous forams abundent, bivalves present.
							0.32	CLAY STONE. same as above but fewer fossils. Siderite nodules more than in upper part
							0.11	CLAY STONE as above, forams abundent well preserved - upto 2mm. glauconite comm[illegible]
							0.17	CLAY STONE Less forams. lower part burrowed & grades down into muddy s.st.
	112.36				112		0.42	SAND STONE MUDDY in the upper part. glauconite pallets present 10-20% - highly fossiliferous. forames abundent few bivalv[es]
112.36							0.21	SAND STONE grey, med. grained, sub rounded grs. dominantly quartz. glauconit (green) + Black [illegible] thinly laminated with Sand (quartzitic) laminae. grades downwards into [illegible]
		3.05			113, 114, 115		2.84	SILT STONE grey to dark grey upper part becomes black due to carbonaceous matter. thinly laminated. [illegible] vitrinite sparsel seen. Carbonaceous matter along bedding plane also present. Some small [illegible] of Pyrite [illegible] erved. Sand laminae also found.
	115.35							
115.35		0.90			116		2.15	CORE LOSS Probably Sand Stone [illegible]
					117, 117.50		0.34	SAND STONE, friable. light grey, fine grained with [illegible] % [illegible] mineral grains and green coloured glauconite. few [illegible] quartz grains present.
	118.40				118		0.56	silt Stone grey hard with occasional sand laminae and carbonaceous laminae in lower half. [illegible] 5cm thick coal and sand interlaminated. becomes more sandy towards base.
118.40		1.42			119, 119.82		1.42	Silt Stone upper 5 cms is silt stone sand stone inter layered with 0.1 cms thick - 0.2 - 1 cms long vitrinite (Bright [illegible] bands). SAND STONE is grey at places becomes dark grey due to carbonaceous matter. Thin laminae of coal along bedding planes locally present. Probably cross bedded cross bedding [illegible]. Sand stone [illegible] grained grades down into medium grained (sub [illegible]) poorly sorted. [illegible] grains with occasional [illegible] black [illegible] at [illegible] sand stone [illegible] black due to [illegible]
	121.45				120, 121		1.63	CORE LOSS.

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					121			
121.45	124.45	0.88			122		2.12	CORE LOSS
					123		0.10	SAND STONE, grey, friable, medium grained, sub angu[illegible] slightly carbonaceous
					123.57		0.17	Silt stone clayey and sandy, slightly ca[illegible] thin [illegible] thick [illegible] long lenses of vitrinite / [illegible] present
					124		0.61	SAND STONE friable medium grained grades down ward into fine grained sand stone with 1 cms thick band of carbonaceous sand stone at about 25 cms above the base
124.45	127.50	1.91			125		1.14	CORE LOSS IN SAND STONE.
					125.59, 126, 127		1.91	SAND STONE, Light grey, fine to medium grained, silty slightly clayey at top. Slightly Pyritic.
127.50	130.55	3.05			128, 129		1.90	SAND STONE. light grey to grey, friable fine to medium grained, subangular to subrounded grains. Very fine carbonaceous partings at places.
					130		1.15	SAND STONE grey to dark grey, medium hard. clayey, Pyritic, non calcareous, Subangular to subrounded grains very fine ca[illegible] at places and coaly partings at places.
					131			

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
130.58					131		2.35	SAND STONE SAME AS ABOVE very fine carby partings at places
	133.60	3.05			132		2.90	SAND STONE AND SILT STONE interbedded. Sand stone is medium grey to dark grey soft to semi hard sub angular to subrounded grains. glauconitic. Silt stone, compact, hard, slightly pyritic.
133.60					132.90 133		0.70	
	136.65	3.05			134		1.40	SAND STONE AND CLAYSTONE interbedded, grey to dark grey semi hard, semi compact sand stone and clay stone interlaminated silty to clayey Pyritic, very fine carby partings.
					135			CLAY STONE medium grey to dark grey, semi hard, semi compact, slightly silty micaceous, non calcareous, slightly sandy at places. v. slightly Pyritic
136.65					136		1.65	
	139.70	3.05			137		1.46	SILT STONE, dark grey, with lenses of clay pyritic hard, compact
					138		1.59 1.58	SAND STONE medium dark grey to medium light grey, fine to med. grained. quartz grains, transparent to translucent, subangular to subrounded. sand stone is silty, compact at places lenses of clay present. Pyritic at places.
139.70					139			
					140		0.90	CORE LOSS probably sand stone friable
					140.60			

Form 3b

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					140.60			
					141		1.72	SAND STONE, medium light grey, fine to med grained quartz grains are subrounded to subangular well sorted, transparent to translucent. Sand stone grades downwards into siltstone.
					142		0.18	SILTSTONE dark grey, hard compact, Pyritic, Slikensided with carbonaceous material
142.58	142.58							
					143		1.54	SILTSTONE. Dark grey, hard to compact, Pyritic siderite nodules, with sand lenses at places. carbonaceous material abundent
					144		0.38	CARBONACEOUS SHALE dark grey, highly carbonaceous highly Pyritic - plant fossils impressions? present Slikensided.
					145		1.13	SILT STONE medium grey, carbonaceous matter present. Pyritic Slikensided
145.55	145.55							
							057	SILTSTONE Same as above
					146		0.38	MUDSTONE/SHALE medium dark grey, hard, compact, Pyritic, Siderite nodules. Slikensided. Carbonaceous matter present. it grades downwards into Sand Stone
					147		2.10	SAND STONE, medium dark grey, fine to medium grained, soft, [illegible] Pyritic. Carbonaceous matter present plant fossils? present
148.60	148.60				148			
					149		1.08	SAND STONE AS ABOVE.
					150		1.97	SILT STONE [illegible] interbedded medium grey & medium light grey shaly shades present. Pyritic Slikensided, siderite [illegible] interbedded.
					151			
151.65								

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
151.65	154.70	3.05	1.38		151.65–152.43		0.78	SILTSTONE SANDSTONE interbedded same as above. grades downwards into Sand Stone. ?
					152.43–153.03		0.60	SANDSTONE: medium light grey fine to medium grained, subrounded to subangular. slightly well sorted. few pink quartz grains. Sandstone at the bottom becomes muddy and slightly coaly.
					153.03–154.70		1.67	CORE LOSS probably Sand stone
154.70	157.75	3.05	0.45		154.70–157.30		2.60	CORE LOSS probably SANDSTONE friable.
					157.30–157.75		0.45	SILTSTONE, dark grey, hard, slightly muddy, Pyritic, [illegible], [illegible], coal specks present.
157.75	158.45	0.70	0.50		157.75–158.25		0.50	SILTSTONE dark grey as above
					158.25–158.45		0.20	CORE LOSS ?
158.45	159.40	0.95	0.27		158.45–158.72		0.27	SILTSTONE dark grey slightly sandy, hard
					158.72–159.40		0.68	CORE LOSS ?
159.40	161.10	1.70	[illegible]		159.40–159.44		0.04	~~CLAYSTONE.~~
					159.44–160.35		0.91	COAL UAS-2-1 (TWO bags) 159.44 – 160.39 (0.91)m. Coal: dull black [illegible], pyritic, slightly [illegible]
					160.35–160.39		0.04	~~CARB SHALE/COAL~~
					160.39–161.10		0.71	SANDSTONE [illegible], [illegible] subrounded, angular with carbonaceous [illegible] [illegible] quartz grains with occasional black [illegible] grains [illegible] [illegible] is slightly carbonaceous and muddy, grades [illegible] downwards into cleaner sand [illegible] [illegible] [illegible] locally present [illegible]

Right-margin depth marks: 153.03, 154.70, 157.30, 158.25, 158.45, 158.72, 159.40, 159.44, 160.35

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					160 – 161			
161.10	163.85	2.58			161 – 161.27		0.17	CORE LOSS
	2.75						0.15	SAND STONE grey fine grained subrounded, quartzitic, muddy. it grades downwards into silt stone
					162		0.95	SILT STONE grey in colour, Pyritic mostly small patches of fine grained green coloured. Some coarser grained brassy yellow pyrite. Carbonaceous specks occasionally present along bedding plane. clayey, grades downwards into clay stone
					163		0.72	CLAY STONE grey, occasional small patches of Pyrite and carbonaceous flakes
							0.75	CLAY STONE grey occasional small patches of Pyrite fine grained [illegible]. occasional carbonaceous flakes. white coloured rounded, opaque mineral grains abundant compression slickensided.
163.85	166.00	1.69			164		0.20	CLAY STONE carbonaceous dark grey to black with patches of Pyrite.
	2.15						0.57	CLAY STONE grey to dark grey slightly carbonaceous. patches of fine grained (greenish) Pyrite.
							0.05	CLAY STONE, SILT STONE interlayered with fine grained, clay is grey sand is light grey. grades downwards into sand stone
					165		0.87	SAND STONE. light grey, friable upper 20 cms is fine grained grades downwards into medium grained friable, quartzitic sand stone. with indistinct cross bedding, carbonaceous matter along bedding planes. Sand grains subrounded, few subangular
					165.54		0.46	CORE LOSS probably sand stone. 165.54 – 166.00
166.00	169.00	3.00			166		0.15	SAND STONE, light grey N/7, friable, subrounded, quartzitic, carbonaceous matter along bedding planes cross bedded ?
	3.00						0.20	SAND STONE light grey N/7, hard. fine grained, quartzitic slightly calcareous.
							0.25	SAND STONE light grey, fine grained with few thin (1-2 mm) bands of carbonaceous matter probably cross bedded. rare glauconite grains
							0.44	SAND STONE As Above friable
					167		0.14	SAND STONE light grey, hard, fine grained with thin carbonaceous bands/laminae
							0.49	SAND STONE as above, friable.
							0.17	SAND STONE as above hard
					168		1.16	SAND STONE as above, friable, sand and silt interlaminated in lower part at places thin carbonaceous laminae.
169.00	170.50	1.50			169		0.10	SAND STONE Light grey N/7. friable, dominantly quartz, with 2-3% black coloured Fe-mg mineral grains and rare green coloured glauconite.
	1.50				170		1.40	SAND STONE AND SILT STONE (CLAYEY) interlaminated in 1-2 mm thick laminae at places sand [illegible] thick. Fine grained sand, subrounded, dominantly quartz, with [illegible] black Fe-mg mineral [illegible] glauconite [illegible] cross bedded at places [illegible], silt [illegible] lenses 1-3 cms thick present at places.
170.5								

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
170.50	1.40 / 171.90	1.40			171		1.40	SAND STONE Light grey N/7 to medium light grey N/5 with subordinate thin laminae of dark grey N/3 of siltstone at places, carbonaceous matter present along bedding planes. probably cross bedded. sand is fine grained, subrounded, dominantly quartz grain 15cms thick band of hard sand stone. with carbonaceous coaly matter along bedding planes. rare pink quartz present with small 1-2 mm milky white patches of shell fragments
171.90	1.50	1.50			172		0.30	SAND STONE as above friable.
	173.40				173		1.20	SANAD STONE, light grey N/7, hard otherwise same as above.
173.40	2.10	1.91			174		0.94	SAND STONE as above grades downwards into clean quartzite sand stone fine grained 2-3% black Fe mg grains and green glauconite grains. thin [illegible] laminae of carbonaceous matter along bedding plane.
					175		0.97	SAND STONE fine grained
	175.50				175.31	X	0.19	CORE LOSS Probably Sand Stone. 175.31 175.50
175.50					176	X	2.15	CORE LOSS in Sand stone as above 177.65
	3.05	0.90			177 / 177.65 / 178		0.90	SAND STONE medium grey N/5, fine grained upper [illegible] few medium size grains. Subrounded, few subangular grains. quartzitic. black coloured Fe-mg minerals [illegible] 10cms thick band at 11cms from top & 5cms thick band of sand and carbonaceous matter/coal in 1-2 mm thick layers, probably [illegible] beds.
178.55	178.55					X	0.37	CORE LOSS IN SAND STONE
	1.00	0.63			178.92 / 179		0.63	SAND STONE, friable, fine grained, subrounded, few subangular. Carbonaceous matter in laminae 0.5 mm widely spaced. At [illegible] top [illegible] band with coal fragment. 178.92
	179.55						0.15	SAND st. med grey N/4-N/3, carbonaceous at places. Lower 5cm carb SS.
179.55	2.50	1.60			179.70 / 180 / 180.48	■	0.78	COAL Lignite, UAS-2-2 (3 bags) dull black, blocky, Pyritic. {(179.7 - 180.48) 0.78} (bag 1 0.32 m 179.70 - 180.02) coal slightly shaly, (bag 2 0.27 m 180.02 - 180.29) coal [illegible], (bag 3 0.19 m 180.29 - 180.48) coal broken [illegible] %
					181			

Form 3b

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					180			
					180.18			
					181		0.67	SAND STONE upper 45cms dark grey N/3 with carbonaceous laminae probably along cross bedding planes. few small patches of Pyrite & fine grained (green). Lower 22cm is cleaner sand stone, friable light grey with few carbonaceous fragments very small.
					181.15			181.15
							1.00	CORE LOSS.
	182.15				182			182.15
182.15								CLAY STONE silty dark grey N3, ubps 25cms, lower part is medium grey N4 with small nodules/lenses 0.5-2 cms, thick 0.5-5 cms long. pale yellowish orange, of siderite? at places thin (2cm) bands of siderite. becomes carbonaceous in the middle. small specks & flakes in small amount all through.
					183		3.05	
					184			
					185			
	185.20							
185.20								CLAY STONE SILTY as above. Pyritic, carbonized grades down into Sand Stone
					186		0.77	
							0.28	SAND STONE medium light grey N/6 to medium grey N/7 fine grained with carbonaceous laminae.
							0.53	SAND STONE medium light grey hard quartzitic probably si. cemented, glauconitic, 1-2 mm pale ches milky (white for probably fossil fragments
					187			
							1.35	SAND STONE friable otherwise same as above.
					188			
	188.25				182.13			182.13
188.25		0.70	0.70				0.12	CORE LOSS in Sand Stone 182.25
							0.60	CORE LOSS in Sand Stone
	188.95				182.85			182.85
188.95		2.15	0.19		189		0.10	SAND STONE as above
							1.55	CORE LOSS in Sand Stone
					190			
					190.50		0.15	Silty clay stone, medium dark grey N/4, carbonaceous compressed shaly
							0.60	SAND STONE light grey, quartzitic with 1-2% black coloured
					191			

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	THICKNESS	LITHOLOGIC DESCRIPTION
					191		Fe-Mg minerals. Sand Fine grained subrounded, moderately well sorted.
					191.25	0.45	COAL UAS-2-3 bag 1 (0.15)m Coal; COAL UAS-2-3 bag 2 (0.30m Coal Shaly. } 191.25-191.70 (0.45)
191.40					191.70	0.2	CARBONACEOUS SILTSTONE medium dark grey N/3 Pyritic (fine grained green)
	194.45	3.05	3.05		192	2.55 / 2.85	SAND STONE grey very fine grained interlaminated with SILT STONE Sandy, resin specks 1-2 mm rare laminae mm thick few small patches of Pyrite
194.45					194.45	0.60	SILT STONE medium grey N/5 argillaceous. 195.05
					195	0.35	SAND STONE grey. friable, fine grained. carbonaceous 195.40
	196.70	2.25	1.80		195.40	0.45	CORE LOSS in SAND STONE 195.85
					195.85	0.85	SILT STONE clayey grey N/5. 196.70
196.70					197	1.95	CORE LOSS in Sand stone 198.65
	199.75	3.05	1.10		198		SAND STONE. light grey N/7, friable, coarse grained subrounded, moderately sorted, quartzitic with rare pink quartz grains and occasional black Fe-mg grains
					198.65	0.22	SAND STONE, light grey N/7, friable, fine grained, few medium size grains, quartzitic, about 5 cms thick band of carbonaceous sand stone
					199	0.27	
						0.61	SAND STONE light grey N/7 coarse grained as above. 199.75
199.75					200	2.45	CORE LOSS

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					201, 202		2.45	CORE LOSS IN SAND STONE (202.20)
	202.35				202.20		0.15	SAND STONE Coarse grained as above (202.35)
202.35	3.05	0.60			203, 204		2.45	CORE LOSS in sand stone friable (204.80)
	205.40				204.80, 205		0.60	SAND STONE friable; medium grained as above. (205.40)
205.40	1.40	NIL			206		1.40	CORE LOSS probably sand stone (206.80)
206.80	206.80							
	3.00	0.24			207, 208, 209		2.76	CORE LOSS in Sand stone. (209.56)
	209.80				209.56		0.24	SAND STONE, medium grey N/5 to grey N/4 less friable than above, interlaminated with silty clay laminae 1mm. compression slickensides. Siltstone is grey. heavily fracted. (209.80)
209.8					210, 210.35		0.55	CORE LOSS (210.35)

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					210			210.3
	3.05	2.50			211, 212		2.50	SAND STONE Light grey (dirty) friable, medium grained, subrounded, quartzitic - dominantly clear quartz occasional pink quartz grains.
	212.85							212.85
212.85	3.05	[illegible]			213, 214, 215		2.80	SAND STONE, light grey, friable, Coarse grained (CU) with about 10-15% very coarse grained (VCU) and about 15% medium grained, subrounded, few grains [illegible]. [illegible] coal fragments in small amount present
					215.65			215.65
	215.90						0.25	CORE LOSS or Sand stone as above — 215.90
215.90					216		0.45	CORE LOSS or Sand stone [illegible]
					216.35			216.35
	3.05	2.60			217, 218		2.60	SAND STONE, light grey, friable, coarse grained, subrounded, poorly sorted, quartzitic, dominantly clear quartz with few pink quartz grains. Some dark coloured fragments probably dark grey carbonaceous silt stone / shale [illegible]. Coal fragments also present. bottom [illegible] [illegible] sand stone
	218.95							218.95
218.95	3.05	2.20			219		0.85	CORE LOSS
					219.80			[illegible]
	220				220			SAND STONE

Form 3b

DRILL-HOLE NO UAS-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					220			
					221		220	SAND STONE light grey friable as above (dirty/ clayey) appears to be muddy probably due to bentonite mud? quartzitic with few very coarse grained quartz grains
222.0	222.0				222			
							1.20	SAND STONE, light grey, friable, medium grained quartzitic with [illegible]% black coloured, Fe-mg mineral grains and occasional green, coloured glauconite pellets.
					223			
					223.20			CORE LOSS [illegible]
	225.05	1.20			224		1.85	
225.05					225			
					226			
	228.10	NIL					3.05	CORE LOSS, Sand Stone as above
					227			
					228			
								THE END T.D 228.10
					229			
					230			

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0.00	2.00				1			ALLUVIAL COVER. SILTY CLAY with foraws LIMESTONE Light yellowish brown, foraws present both fragments and well preserved Alveolina, Assilina. 2.00
2.00	4.00							LIMESTONE, Same as above 4.00
4.00	6.00	NON CORING						LIMESTONE, Same as above CLAYSTONE Sandy, silty, with fragments of limestone probably thin bed of limestone. 6.00
6.00	8.00							SHALE-LIMESTONE Fragments intermixed. Probably thin layers of limestone in shale. Foraws fragmented and well preserved 8.00
8.00	10.00			✓				SHALE With limestone fragments as above LIMESTONE Light yellowish brown with foraws Alveolina and Assilina Limestone fragments .5 to 1 cm. 10.00

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10.00	12.00							LIMESTONE, Same as above, with more shale bands Forams present 12
12.00	14.00							LIMESTONE, Same as above, with shale bands 14
14.00	16.00	NON CORING						LIMESTONE, Pale yellowish brown, finely fragmented with fragmented forams (Argillaceous as compared to upper beds. 16
16.00	18.00							LIMESTONE, With bands of highly foraminiferal shales 18
18.00	20.00							LIMESTONE, Highly foraminiferal with shale bands 20

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20	22	NON CORING						LIMESTONE, Argillaceous / Marl, pale yellowish brown, highly foraminiferal, Alveolina, Assilina with shale bands
22	24							MARL, as above, with shale bands.
24	26							MARL, as above, with shale bands
26	28							MARL AND SHALE interbedded (finely fragmented), as above with forams, Alveolina, Assilina
28	30							MARL AND SHALE Interbedded, as above, with forams

22

24

26

28

30

Form 3b

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30	32	NON CORING						No SAMPLE, Due to 100% water loss Probably MARL - SHALE as above
32	34							No SAMPLE, Due to 100% water loss
34	36							No SAMPLE Due to 100% water loss
36	38							No SAMPLE Due to 100% water loss
38	40							No SAMPLE Due to 100% water loss

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40	42							NO SAMPLE, Due to 100% water loss
42	44							LIMESTONE, Melting Limestone. Argillaceous, Foraminiferal, Pale yellowish brown. Sandy. Fine to coarse, subangular to ~~subrounded grains of sand~~ SONHARI MEMBER Sandstone. light gray, friable Fine to coarse, subangular to subrounded Gypsiferous. 44
44	46	NON CORING						SANDSTONE, Light gray, Fine to coarse grained, Subangular to subrounded Friable Carbonaceous traces.
46	48	NON CORING			47			SANDSTONE Same as above 47 SONHARI COAL/CARBONACEOUS SHALE 47.5 SANDSTONE Gray, Same as above 48
48	50							SANDSTONE, Light gray, friable, fine to coarse grained. Subangular to subrounded Few carbonaceous traces 50

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
50	52							SANDSTONE - SANDY CLAYS Light gray, Gypsiferous, Sand fine to medium grained, subangular to subrounded 52
52	54							SANDY CLAYS Light gray. Sand fine to medium grained, subangular to subrounded 54
54	56	NON CORING						SANDY CLAY, Gray, Same as above. 56
56	58							SANDY CLAY, Gray, Same as above 58
58	60							SANDY CLAY. Gray, Same as above 60

DRILL-HOLE NO UA5-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60	62							SANDY CLAY Gray, Sand fine to medium grained subangular to subrounded, Gypsiferous at places.
								62
62	64							SANDY CLAY Gray, Same as above
								64
64	66	NON CORING						SANDY CLAY Gray, Same as above
								66
66	68							SANDY CLAY Same as above
								68
68	70							SANDY CLAY Same as above
								70

Form 3b

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
70	72							SANDY CLAY Same as above.
								72
72	74							SANDY CLAY Gray, Sand fine to medium grained At places coarse grained, subangular to subrounded
								74
74	76	NON CORING			75		SANHARI FORMATION	SANDY CLAY - LIMESTONE Gray, Sand fine to medium grained subangular to subrounded, Soft Foraminiferal
								76
76	78							LIMESTONE - Light gray, Sandy, sand grains Rare Foraminiferal
								78
78	80							LIMESTONE, Light gray, Foraminiferal.
								80

Form 3b

-254-

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
80	82	NON CORING						LIMESTONE / SILTSTONE with limestone fragments. Light gray, foraminiferal,
								82
82	84							LIMESTONE/SILTSTONE Foraminiferal, Clayey, Light gray
								84
84	86							SILTSTONE, Light gray, Clayey, Foraminiferal
								86
86	88							SILTSTONE, Light gray, Clayey, Foraminiferal
								88
88	90							SILTSTONE Same as above
								90

Form 3b

DRILL-HOLE NO 1145-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
90	92							SILTSTONE/LIMESTONE Light gray, Clayey, Foraminiferal 92
92	94							LIMESTONE. Light gray, Silty, Foraminiferal. 94
94	96	NON-CORING						LIMESTONE. Same as above 96
96	98							LIMESTONE/SILTSTONE Gray to light gray Foraminiferal 98
98	100							LIMESTONE/SILTSTONE Same as above 100

Form 3b

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
100	102							SILTSTONE, Light gray, foraminiferal
102	104							SILTSTONE, Same as above
104	106	NON-CORING						SILTSTONE, Light gray foraminiferal
106	108			✓			?	SILTSTONE - (LIMESTONE / fossil fragments?) Light gray, foraminiferal, clayey
108	110							SILTY CLAYSTONE, Gray, hard cuttings, rarely foraminiferal, calcareous

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
110	112							SILTY CLAYSTONE Same as above, 112
112	114							SILTSTONE, Light gray, soft cuttings. Forams at places 114
114	116	NON CORING						SILTSTONE Same as above 116
116	118							SILTSTONE Same as above 118
118	120							SILTSTONE Same as above 120

Form 3a

-258-

DRILL-HOLE NO UA5-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
120					1			SILTSTONE, SILTY CLAYSTONE Same as above
	122				2			122
122					3			LIMESTONE, Light gray, hard cuttings, Forams, silty
	124				4			124
124		NON CORING			5			SILTSTONE, Light gray, clayey, Rarely Foraminiferal
	126				6			126
126					7			SILTSTONE, Same as above
	128				8			128
128					9			SANDY CLAYSTONE, Light gray, Silty, Sand very fine to fine grained Subrounded Shell fragments
	130				0			130
					1			
					2			

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
130	132							SANDY CLAYSTONE Light gray. Calcareous, silty, fine grained Grains subrounded. Forams at places 132
132	134	NON CORING						SANDY SHALE. Gray, Calcareous. Contains Forams. Few unidentifiable fossil fragments. Sand fine grained Subrounded grains. 134
134	136							SANDY SHALE AND LIMESTONE Gray, silty, calcareous, fine grained Foraminiferal. 136
136	138							SANDY SHALE AND LIMESTONE Same as above 138
138	140							SANDY SHALE Gray, fine grained, subrounded. Calcareous Foraminiferal. Few fossil fragments. 140

Form 3b

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
140	142							SANDY SHALE Same as above 142
142	144							SANDY SHALE Same as above 144
144	146	NONCORING						SANDY SHALE Same as above 146
146	148							SANDY SHALE Same as above 148
148	150							SILTSTONE Light gray. Calcareous, Sandy. Very fine grained 150

Form 3D

-261-

DRILL-HOLE NO UA5-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
150	152							LIMESTONE Light gray, foraminiferal, silty, sandy. Sand fine to medium grained, subrounded few subangular grains 152
152	154							SANDSTONE, Light gray, fine to medium grained subangular to subrounded, slightly calcareous Muddy, sparsely glauconitic 154
154	156	NON CORING						SANDSTONE, Medium gray, fine to medium grained Glauconitic, domenantely quartz grains Calcareous, subangular to subrounded 156
156	158							SANDSTONE, Medium gray, N-5, fine grained with few medium size grains, subrounded, Glauconitic Mostly quartz grains, slightly clayey 158
158	160							SANDSTONE, Medium gray, fine to medium grained subrounded few subangular grains. Glauconitic, dominantely quartz grains Probably friable 160

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Form 3b

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
160	162	NONCORING						SANDSTONE, Same as above. 162
162	164							SANDSTONE, Medium gray N-5, Medium to fine grained Dominantely medium grained Subangular to subrounded Sparsely glauconitic. Specks of iron oxede, probably alteration product of glauconite 164
164	166							SANDSTONE, Medium dark gray N-4, Medium to fine grained Dominantely medium grained, Subrounded Dominantely quartz grains. Muddy, few ferromagnesian grains. Few fossil fragments 166
166	168							SANDSTONE, Medium dark gray N-4. Fine grained with few medium size grains. Subrounded About 2% ferromagnesian grains. Sparsely glauconitic. Few fossil fragments. 168
168	170							SANDSTONE, Medium dark gray N-4. Fine grained with few medium size grains. Glauconitic, subangular to subrounded. Few specks of iron oxides Probably alteration product of ferromagnesian grains. Fe Mg grains about 5% 170

Form 3b

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
170	172							SANDSTONE, Medium gray N-5. Fine grained Subrounded. Few subangular grains Dominantely quartz grains. 2 — 3% ferromagnesian grains. Few altered into ironoxides Slightly silty. 172
172	174							SANDSTONE. Same as above with few fragments of carbonaceous matter/coal V 174
174	176	NON CORING						SANDSTONE. Medium Gray N-5 Fine grained with few medium size grains. Few ferromagnesian grains Some altered into ironoxides Muddy. 176
176	178							SANDSTONE Medium grey N-5, fine grained with few medium size grains, Subangular to sub-rounded, glauconitic, few grains altered to iron oxides Slightly clayey 178
178	180							SAND STONE Medium grey N-5, fine grained with few medium sized grains. Subrounded to Subangular, mostly subrounded. muddy ✓few carb y Shale / coal fragments. sparsely glauconitic. 180

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
180	182							SAND STONE Medium light grey N-6, fine grained with few medium size grains, subangular to subrounded. about 2% Fe-mg. grains muddy, 182
182	184							SAND STONE Medium light grey N/6, V. fine to fine grained, muddy, few carby shale fragment few Fe-mg grains. 184
184	186	NON CORING						SAND STONE Medium grey N/5, muddy fine to medium grained, subangular to subrounded, sparsely glauconitic,. 186
186	188							SAND STONE Medium grey N/5 muddy, fine grained sparsely glauconitic. 188
188	190							SAND STONE Medium grey N/5, muddy. V. fine to fine grained, sparsely glauconitic. few carbonaceous shale/coal fragments. 190

Form 3b

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DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
190	192				✓			SANDSTONE Medium gray N-5, Muddy, Fine grained few medium size grains. Subrounded, larger grains dominantely subangular Few carby shale fragments. Few ferromagnesian grains 192
192	194							SANDY SHALE Medium gray N/5. Few fragments of dark gray and black colour probably of carbonaceous shale. Sparsely glauconitic. Sand medium grained 194
194	196	NON CORING						SILTSTONE, Sandy, Medium light gray N/6 Sand consists of fine grained quartz. 196
196	198							SANDSTONE Medium light gray N/6. Fine grained Subangular to subrounded. Well sorted. Few fragments of Carby shale/coal Dominantely quartz grains Rare Fe Mg grains 198
198	200							SANDSTONE, Light gray N-7 Fine grained subrounded. Well sorted Quartz grains about 95 %. 200

Form 3b

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
200	202							SAND STONE. Light grey N-7, friable, fine grained, subrounded few subangular, well sorted, quartz 95-98% few fragments of carby material / coal, 1-3% Fe-mg mineral grains.
202	204							SAND STONE Light grey N-7, fine grained, subrounded, dominantly quartz 95-98%, well sorted, few fragments / coal / carb material. 1-2% Fe-mg mineral grains
204	206	NON CORING						SAND STONE. Light grey N-7, friable, fine grained few med. size grains, subrounded, slightly clayey, quartzitic with 1-2% Fe-mg mineral grains,
206	208							SAND STONE Light grey N/7, friable, fine grained, subrounded, well sorted, quartzitic with 1-3% black & green, Fe-mg mineral grains
208	210							SAND STONE. Light grey N-7 to med. light grey N-6, friable, fine grained, few med dium sized grains, subrounded to subangular, quartz 95-98%, 1-2% Fe-mg mineral grains.

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
210	212							SHALE Medium dark grey N-4, few fragments with patches of carbonaceous matter and disseminated Pyrite in small amount
212	214							SHALE. Medium dark grey N-4, rare shale fragments Contains disseminated Pyrite. Slightly Calcareous. Contains medium (mU) to Coarse (cL) quartz grains, Subrounded. probably thin bands or lenses of Sand Stone present.
214	216	NON CORING						SHALE. Shale with few fragments containing Pyrit and carbonaceous matter, otherwise Same as above.
216	218							SHALE Same as above
218	220							SHALE Same as above.

Form 3b

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
220	222							SILTSTONE. Dark grey N/3, sandy, sand fine grained (quartz) subrounded, few Fe.mg mineral grains. 222
222	224							SAND STONE. Dark grey N-3, muddy, fine to medium grained. dominantly quartz, subrounded few subangular quartz grains. few Fe-mg mineral grains. 224
224	226	NON CORING						SAND STONE. Dark grey N-3, muddy, fine to med. grained. subrounded quartz grains, moderately sorted. occasional coal / carb shale fragments. 226
226	228							SAND STONE. Dark grey N-3, muddy, fine to medium grained, subrounded, occasional disseminated Pyrite grains and 1-2% black/green Fe.mg. mineral. grains. 228
228	230							SAND STONE. Dark grey N-3, muddy, fine to medium grained subrounded, quartz dominant with 1% black Fe.mg mineral grains. 230

Form 3b

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
230	232							SAND STONE Same as above. 232
232	234							SILT STONE SANDY, dark grey N-3, sand fine grained clear quartz, muddy. 234
234	236	NON CORING						SILT STONE Same as above 236
236	238							SILT STONE Same as above 238
238	240							SAND STONE. Dark grey N-3, muddy, fine to med. grained. few Coal / Carby Shale fragments 1-2% green & black f.r. mg mineral grains. 240

Form 3b

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
240	242							SAND STONE. Dark grey N-3, muddy, fine to coarse grained, Subrounded. few Subangular quartz grains. few grains Contain disseminated Pyrite. occasional green (glauconite?) grains. 242
242	244							SAND STONE, SHALE fragments mixed probably interbedded, dark grey N-3 dominantly quartz grains. Fine to Coarse, poorly sorted. Few green (glauconite mineral grains. quartz Subrounded few Subangular grains. 244
244	246	NON CORING						SAND STONE SHALE same as above. 246
246	248							SAND STONE / SHALE, with few fragments Containing Pyrite. 1-2% rounded green grains of glauconite. Few Fe-mg mineral grains. 248
248	250							SAND STONE Medium dark grey N-4, friable, fine to coarse grained. dominantly Subrounded few Subangular grains poorly Sorted, quartz >90% with few fragments of Shale, few fragments with disseminated Pyrite. occasional green Fe-mg mineral grains. 250

DRILL-HOLE NO UAS-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
250	252							SAND STONE medium dark grey N-4, friable, fine to med grained with some shale fragments, some of these contain disseminated Pyrite. 90% quart Subrounded few subangular grains. 1-3% green Fe-mg mineral grains. 252
252	254							SAND STONE Same as above 254
254	256	NON CORING						SAND STONE Same as above 256
256	258							SAND STONE Medium grey N-5, fine to med. grained Subangular to subrounded, moderately sorted dominantly quarts 95%. 1-2% black Fe-mg mineral grains. 258
258	260							SAND STONE Medium grey N-5, fine to medium grained. Subangular to Subrounded. moderate -ly sorted. dominantly quarts. few green coloured Fe-mg mineral. grains. 260
								T. D. 260 THE END.

Form 3a

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DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					0			
					1			
					2			CLAYSTONE - Medium light gray N/6, silty, sandy and calcareous.
					3			
					4			
					5			
					6			6.m
	NON - CORING				7			LIMESTONE - Grayish Orange 10YR7/4. Limestone and shale interbedded. Limestone cuttings sandy, fossiliferous (foramns)
					8			8.m
					9			LIMESTONE - Pale Yellowish Orange 10YR8/6 Same as above.
					10			10.m
					11			
					12			

DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RECOVERY CORE	CORE RECOVERY CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					11			LIMESTONE_ Dark Yellowish orange. 10YR6/6 limestone and shale interbedded, limestone is sandy, fossiliferous (forams)
					12			12
					12			LIMESTONE_ Same as above.
					13			
					14			14
	NON-CORING				14			LIMESTONE_ Same as above
					15			
					16			16
					16			LIMESTONE_ Same as above
					17			
					18			18
					18			SHALE/claystone – Moderate Yellowish brown 10YR5/4 Shale with cuttings of limestone, probably interbedded, fossiliferous (forams). Shale is not calcareous.
					19			
					20			20

Form 3b

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DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					21			SHALE – Same as above.
					22			
	NON - CORING.				23			LIMESTONE — Dark yellowish orange 10YR 6/6, Sandy, Sand coarse grained, subrounded to rounded
					24			
					25			SHALE — Dark yellowish orange 10YR 6/6, Calcareous Sandy limestone ~~thin~~ laminations present Fossil fragment present ~~Shale~~
					26			
					27			SHALE — Shale with minor Sandy limestone Same as Above
					28			
					29			SHALE — Greyish orange 10YR 8/4, Dark yellowish orange 10YR 6/6, Sandy, soft, sticky, slightly Calcareous, fossils present.
					30			

DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					31			Shale- Dark grey N3, soft, sticky, slightly silty, black coloured very fine grained particle present. Pale yellow parting; probably fallen from overlying Strata
					32			32
					33			Shale- Dark grey N3, soft, Sandy, Sand grains are mostly medium grain, very fine black grains present, few pale yellow grains probably y Limestone
					34			34
		CORING			35			Shale- Dark grey N3, very silty, soft, few sand grains present, black very fine particles present.
					36			36
		NON-			37			Shale- Shale medium dark grey N4, Sandy, silty, pale yellow grains ~~few~~ rare, black very fine particles present One green coloured pellet probably of Glauconite observed
					38			38
					39			Sandstone- Greenish grey 5G 6/1 to light greenish grey 5G 8/1, very fine to coarse grained, very silty, Clayey, black colour grains present. Fossil present, Slightly Calcareous.
					40			40

Form 3b

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DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					41			Shale- Medium dark grey N4, soft, sandy, pale yellow limestone particles, very fine black partings present, calcareous
					42			42
					43			Shale- Dark grey N3, silty, slightly sandy, sand grains are medium to coarse, very fine black partings, pale yellow partings fallen from overlying beds, slightly calcareous
		Core lost			44			44
					45			Shale- Same as above
					46			46
		Core lost			47			Shale- Medium dark grey N4, silty, sandy, sand grains medium to coarse, subrounded to rounded, very fine black partings present, pale yellow particles rare, probably fallen from overlying strata 48
					48			
					49			Siltstone- Medium dark grey N4, sandy, sand grains medium to coarse, sand grains subrounded to rounded, very fine black partings present, pale yellow particles rare, probably fallen from the overlying strata
					50			50

DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
50	Coring Started							50.10
							0.88	Sandstone – Light grey N7, very sandy, sand grains are medium grain, very hard, compact, sandstone + limestone ratio is about 40:60, fossiliferous, pyrite grains present, glauconite pellets present & highly pyritic in lower part, sharp contact with sandstone 50.88
	(2.28)	1.52			51		0.64	Sandstone – Medium dark grey N4, very fine to medium grain, mostly subrounded, poorly sorted, muddy, burrows filled with fossiliferous 51.52
	52.28				52		1.66	CORE LOSS (IN Sandstone) 52.28
52.28								Medium dark grey N4, hard, compact, thin laminae of sandstone & patches of sandstone probably burrows filled with sand present burrows filled with pyrite observed, Coaly speckles well distributed in claystone seems to be root filled with pyrite, Siderite nodules present, more sandy patches in lower part
	(2.66)	2.66			53		2.50	
	54.94				54			54.94
					55		0.16	Sandstone – Medium dark grey N4 very fine to fine subangular to subrounded, poorly sorted, muddy, black coloured grains present 54.94
54.94								CORE LOSS IN SANDSTONE.
							0.90	55.84
					56		0.25	Sandstone – Light grey N5, very fine to fine grained, subangular, sorted, soft, loose, black coloured grains present, about 85% SiO2 grains present, shale lamination. 56.09
	(3.05)	2.15						Claystone – Medium dark grey N4, thin laminaes of sandstone present alternately with claystone, the thickness of sand layers are from 0.1 m.m to 0.5 m.m, medium hard, compact break through the weak sand laminaes, at places looks like flaser bedding ?, siderite nodules present pyritic at places, fossil fragments
	57.99				57		1.90	57.99
57.99								Sandstone – Light grey N7, very fine grained, subrounded sorted, Cross bedded, thin laminaes of 1 m.m present with one to 2 cm layers, hard, compact, ferruginous grains present, glauconite observed ?, Siderite nodules in lower part, more clayey towards lower part
	(2.84)	2.84			59		1.84	
					60			
					61			
					62			

← contd

DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							1.0	Claystone – Light grey N7, hard, compact, burrowed, siderite nodules present, fossiliferous, highly fossiliferous at places, silty, pyrite grains present, carby and coaly specks present.
	60.83							60.83
60.83							1.26	Claystone – Medium dark grey N4, hard, compact, silty, pyrite, fossiliferous
					62			62.09
								Sandstone – Medium dark grey N4, hard, compact, silty, pyrite
					63			
	63.88							63.88
63.88						X	0.10	CORE LOST
					64			63.98
	(3.05)	2.95						Sandstone – Medium dark grey N4, mostly fine to medium, subrounded, sorted, alternate layers of shale and sandstone. Thin layers of shale are from 0.2 m – 1.0 m, sideritic in lower part, fossil observed
					65		2.50	
					66			66.98
								Claystone – Medium dark grey N4, hard, compact, silty, carby specks present, fossil fragments, burrows?
	66.93						0.45	
66.93					67			Claystone – Medium dark grey N4, medium hard, medium compact, sandy patches present, fossil rare, in lower siderite nodules present, pyrite grains, rooted, sandy patches present, silty in lower part.
	(3.05)	3.05						
					68			
	69.98							69.98
					70			

Form 3b

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DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
69.98	(1.58) 71.56	1.58					1.28	Claystone – Same as above 71.26
								Siltstone – 71.56
71.56	(2.07) 73.63	1.90			72		1.34	Sandstone – Medium dark grey N4, fine to medium, sub rounded, sorted, very hard, compact, highly fossiliferous, calcareous, slightly glauconite observed. 72.90
					73		0.56	Sandstone – Dark greenish grey 5GY4/1, fine to medium grained, subrounded, poorly sorted, medium hard, medium compact, fossiliferous, glauconite in [illegible] sandstone [illegible]. 73.46
							0.17	CORE LOSS IN SANDSTONE 73.63
73.63	(2.44)	1.03			74		1.41	CORE LOSS IN SANDSTONE. 75.04
	76.07				75		1.03	Sandstone – Dark grey N3, medium to coarse grained, glauconite present, quartz grain subangular to subrounded, slightly calcareous. Shell fragments present in the middle portion of the unit. Carbonaceous [illegible] present. Sharp contact with claystone. 76.07
76.07	(0.61) 76.68	0.61			76		0.61	Claystone – Greyish black 2N2, siderite nodules & patches present, [illegible] form of thin patches, ferruginous [illegible] present at the [illegible] of the core, where it breaks. 76.68
76.68	(3.05)	2.26			77 / 78		2.26	Claystone – Greyish black 2N2, sandstone lamination is nearly 10–20% of the unit. Siderite nodules & patches present. Sandstone in the form of patches and partings present, acts as a weak zone from where claystone breaks easily. Sand grain is subrounded to subangular. At the base of this unit is sandstone of 15cm thickness. Glauconite present in this sandstone bed. 78.94
	79.73				79		0.79	CORE LOSS (IN SANDSTONE) 79.73
79.73					80			CORE LOSS IN SANDSTONE (contd)

DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	THICKNESS	LITHOLOGIC DESCRIPTION
	82.78	1.83 (3.05)			80–81.03	1.3	CORE LOSS 81.03
					81.03–81.40	0.37	Sandstone – Dark greenish grey 5G 6/1 to medium dark grey N4, fine grain, subrounded medium sorted, muddy. Middle + lower part shaly, siderite nodules. 81.40
					81.40–82.78	1.38	Claystone – Medium dark grey N4, alternate laminae and layers of Sandstone present, the Sand layers are [illegible] to 0.5 mm, in the upper part, hard, compact, Siderite nodule present, Carbon + [illegible] present, pyrite, one fossil fragment [illegible] Sand grains are fine with black grains [illegible] [illegible] towards base 82.78
82.78	85.54	2.76 (2.76)			82.78–85.54		Claystone – Medium dark grey N4 to dark grey [illegible] layers of claystone + Sandstone present [illegible] [illegible] mm to 0.3 mm, [illegible] small patches of Sandstone present, sand is [illegible] grained [illegible] glauconite grains present, [illegible] is hard, compact, siderite carbon [illegible] 85.54
85.56	88.59	1.30 (3.05)			85.54–86.39	0.85	Claystone – Medium dark grey N4 to dark grey N3, medium hard, medium compact, thin laminae, and patches of Sandstone present. Sand is [illegible] clean + finer, Siderite patches rare, seems Carbonaceous 86.39
					86.39–86.84	0.45	Sandstone – Dark grey N3, fine to Coarse grained, subangular to subrounded, poorly sorted, very muddy, glauconite grains observed, patches of claystone, medium hard, medium compact, siderite nodules present at bottom 86.84
					86.84–88.59		CORE LOSS. 88.59
88.59					88.59–89.29	0.70	Claystone – Claystone with alternate band of sandstone + siderite. Siderite is light olive grey 5Y 6/1, while claystone band are dusky brown 5YR 2/2. Sandstone is dark greenish grey (5GY 4/1), very fine to fine silty, medium sorted, subrounded to subangular 89.29
					89.29–89.96	0.67	Sandstone – Sandstone with Siderite nodules, dark greenish grey 5GY 4/1, Yellow tint, very fine to fine, medium to well sorted and subrounded grains 89.96

Form 3b

DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION	DEPTH
									89.96
	(2.57) 91.16	2.00					0.12	SANDSTONE, Medium to Coarse grained, Subangular, light grey, Quartz rich	90.08
							0.26	CLAYSTONE, Dusky brown 5YR 2/2, very fine laminae of silty sandstone	90.34
							0.25	SANDSTONE, medium light grey N6, fine grained, poorly Cemented, quartz (transparent) grain mostly subangular, brownish black grains probably of [illegible], small and rounded.	90.59
					91		0.57	CORE Loss	
91.16	(0.77) 91.93	0.77					0.07	CLAYSTONE, Brownish black 5YR 2/1, finely laminated to massive	91.16 / 91.23
							0.46	SILTSTONE, Dark grey N3, few alternate bands of claystone of dark brownish black colour, present in middle part, sandy at places, siderite present	91.69
							0.24	SANDSTONE Dark greenish grey 5GY 4/1, very fine to fine, poorly Cemented	91.93
91.93	(3.05) 94.98	3.05			92, 93		1.73	SILTSTONE Dark greenish grey 5GY 4/1, shell fragments in middle part, alternate claystone bands of brownish black (5YR 2/1) Colour, siderite nodule ranging upto 9cm Thickness are present	93.66
					94		0.53	CLAYSTONE Brownish black 5YR 2/1, mostly massive & compact, rarely finely laminated, mild Calcareous, lower part tracks pyritised sand dollar, siderite nodule	94.19
							0.11	SANDSTONE, gritty, very Coarse grain greenish black, poorly sorted, subangular to subrounded, noticeably Calcareous, massive	94.30
							0.68	SANDSTONE very fine grain silty at places, upper .08 metres, medium to Coarse grain, greenish black, broken shell fragments Calcareous	94.98
94.98	(2.82) 97.80	1.08			95		0.30	CLAYSTONE, Greyish black 2N2, Compact, sandy patches & nodules present; lower part of the 2.4cm is sandstone	95.28
							0.26	CLAYSTONE brownish black 5YR 2/1, compact, sandy laminations, ferruginous minerals, Sharp Contact with sandstone	95.54
					96		0.52	SANDSTONE Dark greenish grey 5GY 4/1, fine to medium grain, loose clayey lamination of few m.m thickness Qtz grain transparent to translucent, subangular to subrounded, well sorted, Glauconite	96.06
					97		1.74	CORE LOSS	97.80
97.80	(2.25) 100.00	1.70			98		0.15	SANDSTONE Olive grey 5Y 4/1 to dark grey 3N3, loose, sorted, medium to Coarse	97.95
					99		1.31	CLAYSTONE Brownish black 5YR 2/1, Siderite nodules and patches present very frequently in the upper portion Sandy laminae present.	99.26
							0.24	SANDSTONE Greyish black 2N2, medium to Coarse grained, sugary texture medium sorted, ferruginous minerals	99.50
					100			CORE LOSS IN SANDSTONE	100.00

(Contd run)

Form 3b

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DRILL-HOLE NO UAS-4

Contd run. (CORE LOSS)

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION		
								Core loss in ???		100.06
100.06	101.08 (1.02)	1.02					0.56	CLAYSTONE	Claystone, Sandy Siderite band, dark grey sandstone medium light grey N6, pyritic organic fragments, sandstone v.f, washed, sorted	100.62
					101		0.46	CLAYSTONE	Greyish black N2, massive, concoidal fracture slickenside, pyrite, organic material present	101.08
101.08	103.65 (2.57)	2.57			102		1.62	CLAYSTONE	Greyish black N2, massive, Siderite nodules, Concoidal fracture, Slickenside, pyritized organic fragment, lower part silty	102.70
							0.09	SANDSTONE	silty v.f to f grain, medium light grey N6, subangular to subrounded	102.79
					103		0.86	CLAYSTONE	Dark grey N3, silty, massive, Siderite nodules	103.65
103.65	106.70 (3.05)	3.05			104, 105		1.75	CLAYSTONE	Claystone generally greyish black N2 but at places brownish black 5YR 2/1 Siderite nodules, massive	105.40
					106		1.30	CLAYSTONE	Silty in upper part and in lower part very fine Coaly laminae/fragments rarely present, greyish black N2 Siderite nodules	106.70
106.70	109.75 (3.05)	3.05			107, 108, 109		3.05	CLAYSTONE	Claystone with alternate very fine laminae of Siltstone, brownish black 5YR 2/1, silty layers, dark grey N3, fine lenses of Siderite frequently alternate the silty laminae rarely Coaly fragments	109.75
109.75					110		0.37	CLAYSTONE	Claystone silty sandy at places	

Contd.

DRILL-HOLE NO UAS-4

Contd from previous page

THICKNESS	LITHOLOGIC	DESCRIPTION	DEPTH (base)
	CLAYSTONE	– dusky brown 5YR 2/2 to brownish black 5YR 2/1	110.12
0.44	SANDSTONE	Sandstone, clayey and with alternate bands of siltstone, dusky yellowish brown 10YR 2/2 to brownish black 5YR 2/1, fine to v.f grain	110.54
0.39	CLAYSTONE	olive black 5Y 2/1, massive, harder, siderite lenses	110.95
0.71	CORE LOSS		111.66
0.31	CLAYSTONE	brownish black 5YR 2/1, massive to finely laminated, upper part siderite rich, organic fragments, pyritic	111.97
0.44	SANDSTONE	v.f to f, medium sorting, subangular to subrounded medium dark grey N4, massive	112.41
0.27	CORELOSS		112.68
1.93	CORE LOSS		114.61
1.05	SANDSTONE	Fine to v. fine, silty at places, loosely cemented, subangular to subrounded dusky brown	115.61
0.72	CLAYSTONE	Brownish black 5YR 2/1 to greyish black N2 lower part finely laminated, siderite, silty towards bottom, coaly fragments	116.33
0.45	SILTSTONE	claystone laminae present, brownish black 5YR 2/1, to greyish black N2, siderite nodules, coaly fragments, sandy	116.78
0.90	SANDSTONE	Fine to very fine grain with alternate laminae of claystone, siderite and coaly material at places, medium dark grey N4 clayey material brownish black 5YR 2/1	117.68
0.59	SANDSTONE	Sandstone with claystone bands, medium grey N5, claystone brownish black 5YR 2/1, sst v.f to fine to fine grain, subrounded to subangular	118.27
0.22	SANDSTONE	Calcareous sst very light grey N8 to light grey N7 well cemented, fine to v.f	118.49
0.48	SANDSTONE	Sandstone with upper 8 cm siderite + claystone light grey N7 to medium light grey, fine to v.f grain, loosely cemented	118.97
0.68	SANDSTONE	Sandstone light grey N7, v.f to fine grained subangular, poorly sorted, loose, silty at places, silica with	119.65
0.37	~~Silty~~ SANDSTONE	Sandstone, silty light medium grey to → (contd)	

FROM	TO	CORE	CORE%	WATER LOSS
111.66	111.66 – 112.68 (1.02)	0.75		
112.68	(2.93)	1.00		
115.61	115.61 – 116.63 (0.72)	0.72		
116.63	(1.35) – 117.68	1.35		
117.68	(1.29) – 118.97	1.29		
	118.97 (3.05)	3.05		

Depth metres: 111, 112, 113, 114, 115, 116, 117, 118, 119, 120

contd run.

Form 3b

DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	122.02				121			(contd) ~~Silty~~ SANDSTONE: Medium dark grey, very fine to fine grained, subrounded, sorted, Carby specks, burrows, Carbonaceous in the lower part — 122.02
122.02	124.90 (2.88)	0.85			122–123		0.85	CARBONACEOUS SANDSTONE: Light grey to dark grey N3, very fine to fine grained, subangular, subrounded, sorted, medium hard, medium compact, Carby specks present — 122.87
					123–124		2.13 m	CORE LOSS — 124.90
124.90	125.48 (0.58)	Nil			125		0.58 m	CORE LOSS PROBABLY SANDSTONE — 125.48
125.48	128.53 (3.05)	1.40			126		0.77	SANDSTONE: light grey, medium to coarse grained, subrounded, soft, loose, poorly sorted, friable, Silica 90%, rare ferruginous grains — 126.25
							0.27	CARBONACEOUS CLAYSTONE: Dark grey N3 to brownish black, hard, compact — 126.52
							0.36	CARBONACEOUS SANDSTONE: Dark grey N3 to black, sand grain are medium to coarse, [illegible] — 126.61
					127–128		1.65	CORE LOSS — 128.53
128.53	129.65 (1.12)	1.12			129		0.50	SANDSTONE: (Muddy Sandstone) Dark grey N3, medium to coarse grain, subrounded, poorly sorted, muddy, highly Carbonaceous, Shale patches, Coaly partings — 129.03
							0.30	SILTSTONE: Dark grey N3, hard compact, Sandy patches, burrows — 129.33
							0.32	CLAYSTONE: Medium dark grey N4, hard, compact, Sandy patches/lumps, sideritic, Carby shale/thin lamination, glauconite in 65t — 129.65
129.65					130		0.54	SILTSTONE: Medium dark grey N4, hard compact, thin laminae of SST and Siltstone, siderite nodules, Carby shale layers found

contd -

Form 3b

DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Contd from previous page. 130.19
							0.54	
					131		0.90	CARBONACEOUS SANDSTONE: Medium Dark grey N4 to dark grey N3 very fine to fine grained, subrounded, sorted, medium hard, medium compact, muddy, carbonaceous & coaly patches, pyritic, plant impression
	131.49						0.40	CORE LOSS 131.49
131.49							0.32	CARBONACEOUS SANDSTONE Medium Dark grey N4, very fine to fine grained, sub rounded, poorly sorted
	(1.92)	1.92			132, 133		1.60	CLAYSTONE Dark grey N3, hard, compact, sandy, pyritic, sideritic, burrowed, carbonaceous & coaly specks present, ferruginous grains, rooted 133.41
	133.41							
133.41	(1.12)	1.05					0.46	CLAYSTONE, AS ABOVE 133.87
					134		~~0.54~~ 0.59	SANDSTONE Medium Dark grey N4, fine grained, medium hard, medium compact, muddy & silty 134.41
	134.53						0.07	CORE LOSS 134.53
134.53							0.25	SANDSTONE Fine to very fine grained, subrounded, poorly to moderate, well sorted, quartz rich, silty 134.78
	(3.05)	3.05			135, 136, 137		2.8	CLAYSTONE Dusky yellowish brown 10YR 2/2, fine to very fine laminae of siltstone (and vf sandstone at places) distributed in whole of the unit, silty component also occur admixed with claystone, friable, siderite lenses in nodules present 137.58
	137.58							
137.58					138		1.25	CLAYSTONE Greyish black N2, compact, siderite patches present but no [illegible] patches of siderite [illegible] from .02 cm to .04 cm 138.83
	(3.05)	3.05			139, 140			Sandstone Dark grey N3, hard & compact, medium to fine grained, carbonaceous lamination, siderite patch, at places silty

Contd

Contd

DRILL-HOLE NO VAS-4

Contd. from previous page

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							1.80	SANDSTONE Dark grey N3, hard, compact, medium to fine grain — 140.63
140.63	140.63				141		0.82	SANDSTONE Medium dark grey N4 to dark grey N3, medium to coarse grain, loose, carbonaceous patches & lamination present, at places burrows — 141.45
(3.05)	2.90				142		0.88	SANDSTONE Medium dark grey N4 to dark grey N3. Percentage of claystone is very high & is nearly 40-45%, carbonaceous lamination present. — 142.33
							0.34	CLAYSTONE Dark grey N3, carbonaceous lamination present, sandstone lamination — 142.69
					143		0.99	SANDSTONE Medium dark grey N4 to dark grey N3, very loose, grains medium to coarse, subangular to subrounded, at places gritty — 143.68
143.68	143.68				144		0.80	SANDSTONE Olive grey to medium dark grey, medium to coarse grain, subangular to subrounded — 144.48
(3.05)	3.05				145		2.25	SILTSTONE Dark grey N3, fine grained but at places sandstone is present of medium to fine grains [illegible] siltstone is [illegible] than sandstone. — 146.73
					146			
146.73	146.73				147		3.05	SANDSTONE Medium light grey N6 to light grey N7, upper 1.80m is very fine to fine grained, subrounded, sorted, black ferruginous coloured grains present, probably of [illegible], red coloured grains present, then alternate layers of black mineral grains present, [illegible] loose, lower part is light grey N7, fine to medium — 149.78
(3.05)	3.05				148			
					149			
149.78	149.78				150			sandstone (continued on next page)

Form 3b

-287-

DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	THICKNESS	LITHOLOGIC DESCRIPTION	
	(1.58) 151.34	1.30			151	1.56	SANDSTONE Light grey N7, fine to medium grained subrounded sorted, soft, loose, a thin coaly [illegible] present in lower part, above [illegible] silica grains	151.08
						0.26	CORE LOSS	151.34
151.34						0.55	SANDSTONE Medium dark grey N4, fine to medium grained subrounded, sorted, soft, loose, above [illegible] silica grains. Coal partings [illegible]	
	152.93				152	1.04	CORE LOSS	152.93
152.93	(3.05) 155.98	2.40			153, 154, 155	2.40	SANDSTONE Medium light grey N6 to medium grey N5, medium grained, subangular to subrounded, sorted, black grains present, above [illegible]% silica, in lower portion thin laminae of coal present	155.33
							CORE LOSS IN SANDSTONE	155.98
155.98					156	0.47	SANDSTONE Light grey N7, medium grained, subrounded sorted; above 98% is silica grains, good [illegible] of silica sand	
	159.03				157, 158	2.58	CORE LOSS IN SANDSTONE	159.03
159.03					159	0.10	CLAYSTONE Dusky yellowish brown 10YR 2/2 with bands of light olive [illegible]	159.13
					160	2.95	CORE loss	

→ Contd.

DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.05) 162.08	0.10					2.95	CORE LOSS MAY BE COAL BEARING CLAYSTONE — 162.08
162.08	(2.52) 164.60	1.30					1.22	CORE LOSS — 163.30
							0.18	COALY SANDSTONE upper 9cm & lower 3cm of this unit including rich coal laminae with a considerable [illegible] of sand N8 light grey — 163.48
							1.12	SANDSTONE very light grey N8, Coarse grained washed sand, more than 95% quartz grains, very rarely few Coaly fragments of sand size also present at places — 164.60
164.60	(0.53) 165.13	0.50					0.50	CLAYSTONE Dark grey N3 Silty material of medium grey N5 colour, massive to finely laminated, very rarely pyrite, siderite nodules — 165.10
							0.03	CORE LOSS — 165.13
165.13	(3.05) 168.18	2.90					1.27	CLAYSTONE Medium dark grey N4, alternate thin laminae of SST present, hard, Compact, Sideritic burrows present, lower part Slightly Carbonaceous, Contact with coal. — 166.40
							1.12	COAL SEAM UAS-4-1 Brownish black 5YR 2/1, brittle with low sp gravity, pyritic, resinous, flaky wood impression. lower part of the coal: Greyish black with low sp. gravity resinous, pyritic, blunt, wood impression — 167.52
							0.51	SANDSTONE Light grey N7, fine grained, sub rounded, sorted, black grains, above 90% Silica — 168.03
							0.15	CORE LOSS IN SANDSTONE — 168.18
168.18	(3.05)	3.05						SANDSTONE Sandstone Silty and Clayey at basal part, generally fine at places grades into very fine and medium Coarse. Upper half more Compact & Cemented than the lower half

RUN

contd.

DRILL-HOLE NO UAS-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	THICKNESS	LITHOLOGIC	DESCRIPTION
	171.23				171	3.05	SANDSTONE	Continued from the above. 171.23
171.23					172	0.98	SANDSTONE	Light grey N7, very fine to fine grain, subrounded, sorted, slightly silty, burrowed 172.21
						0.50	CLAYSTONE	Medium dark grey N6, hard compact alternate laminae of sandstone & clay 172.71
					173	0.52	SILTSTONE	medium dark grey N6 to dark grey N5 hard, compact, sandy patches, carbonaceous patches 173.23
						0.20	CARBY SHALE	Dark grey N5 to blackish grey, hard, compact, middle part more carby, coal flake present 173.43
	174.28				174	0.85	SILTSTONE	Light bluish grey, hard, compact, slightly sandy, coaly patches, clay at places 174.28
174.28						0.09	CORE LOSS	174.37
					175	1.03	SILTSTONE	Medium light grey N6, sandy fine to medium coarse grain, lower gradational contact with claystone 175.40
	176.16 (1.88)	1.79			176	0.76	CLAYSTONE	Medium grey N5, organic material present in lower part of the unit, silty in upper part, massive to finely laminated 176.16
176.16						0.67	CLAYSTONE	Dark grey N3, hard compact, carby particles, pyrite in lower part, plant material present 176.83
					177	0.25	CARBY SHALE	Dark grey N3, medium hard, compact at places, pyritic, resinous 177.08
	177.33 (1.17)	1.17				0.25	CLAYSTONE	Medium dark grey N4, hard, compact, coaly patches 177.33
						0.41	CARBY SHALE	Dark grey N3, hard, compact, coaly patches, slightly silty at places, resinous, pyrite 177.74
					178	1.78	CARBY CLAYSTONE	Dark grey, middle part slightly carby, carby patches & thin coaly laminae present, plant material present, pyrite, resinous 179.52
	(3.05)	3.05			179 / 180	0.86	COAL	UAS-4-2 (Sampled from 179.52 to 185.85 = 6.33M Thick) Petrologic characters of this thick seam varies as follows: 179.52 - 180.38 Coal greyish black to brownish black;

Contd

DRILL-HOLE NO VAS-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Pyritic, upper part soft, brittle. Resinous, plant imprints at places 180.38
180.38								CARBY SHALE (Coal is included in total thickness of coal seam as no. 2, but it was not sampled). Dark grey N3 to blackish grey, hard, compact 180.67
							0.29	
	(3.05)	3.05			181			COAL General Colour of this coal seam ranges from greyish black N2 to black N1, middle part is comparatively darker, pyritic almost throughout, soft to medium hard, flaky at places, resinous, plant imprints present at places, minor clayey patches
					182			
					183			
	180.43			180.43			5.18 m	180.43
180.43								
	(2.45)	(2.45)			184			
					185			
							(0.03)	185.85
185.88	185.88				186		0.47	Carbonaceous claystone, brownish black (5YR 2/1), massive to finely laminated, slickenside at places 185.88 186.35
								Claystone dark grey N3 to greyish black N2, silty at places, particularly lower 0.22 m comprises of alternate very fine silty laminae, coaly laminae also present.
	(2.58)	2.58			187		1.65	
					188			188.00
							0.31	COAL Brownish black 5YR 2/1, medium, hard, resinous, flaky blocky at places, organic fragments 188.31
188.46	188.46						0.15	CLAYSTONE 188.46
	188.46				189		1.0	SILTSTONE Light bluish grey 5B 7/1, hard, compact, sandy, sandy grains are fine to medium grain, burrows present, pyritic, Carby specks rare
RUN								189.46
							0.66	SANDSTONE Light bluish grey 5B 7/1, medium grained subrounded, sorted, silty, pyritic, Glauconite
contd					190			← contd -

DRILL-HOLE NO VAS-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RECOVERY CORE	CORE RECOVERY CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								SANDSTONE CONTINUED FROM BACK PAGE 190.12
							0.28	SILTSTONE Medium light grey N6, hard, compact, sandy, pyritic 190.40
	(3.05)	3.05			191		1.03	CLAYSTONE Light grey N7, hard, compact, sandy, pyritic very much burrowed, carby specks, becomes carby shale in lower part. 191.43
191.51	191.51						0.08	CARBONACEOUS SHALE Greyish black N2 to brownish black 2YR, medium hard 191.51
191.51					192		2.39	SANDSTONE Medium light grey N6 to light grey N7 very fine to fine grained, subrounded, silted, slightly salty in upper part, hard sandstone patches present, thin laminae of carby material, black carby specks.
	(2.85)	2.80			193			193.90
					194		0.13	CORE LOSS 194.03
194.36	194.36						0.33	CLAYSTONE Medium grey N5, hard, compact, sandy, brown 194.36
194.36							0.38	CLAYSTONE Dark grey N3 to greyish black N2, medium hard, medium compact, alternate thin lamina of 194.74
	(1.27)	1.15					0.9	SANDSTONE Medium light grey N6, fine grained, silty 195.64
					195		0.11	CARBONACEOUS SANDSTONE Greyish black N2, medium hard, medium compact 195.93
	195.63						0.68	CLAYSTONE upper 5cm contact is a coaly layer, brownish black colour, claystone is medium hard, medium compact 195.51
195.63							0.12	CORE LOSS
							0.40	SILTSTONE Medium light grey N6, medium hard, medium compact, sandy, coaly specks present 195.63
					196		0.29	CLAYSTONE Medium light grey N6, medium hard, medium compact, carby specks 196.32
							0.75	COAL Greyish black N2 to black N1, blocky, pyritic, vitreous 197.07
	(1.93)	?			197		0.10	CARBY SHALE Dark grey N3, medium hard, medium compact, coaly specks 197.17
							0.25	CLAYSTONE Medium dark grey, medium hard, medium compact, more sandy in lower part, coaly specks & patches 197.42
					198		1.04	SANDSTONE Light bluish grey 5B 7/1, upper part very fine to fine, middle & lower part is medium grained, subrounded to rounded, sorted, carby specks present 198.46
	198.56						0.10	CARBONACEOUS SHALE Greyish black N2, pyritic, vitreous, clayey in parts 198.56
198.56								Medium dark grey N4, lower contact with siltstone is gradational, upper part more carbonaceous, root fragments.
	(2.58)	2.58			199		1.16	CLAYSTONE 199.72
							0.50	SILTSTONE Light grey 5B 7/1, lower contact grades into fine sandstone

DRILL-HOLE NO VAS-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								200.22
							(0.60) 0.63	SANDSTONE upp. part silty where as towards bottom grades into claystone, very light grey N8 to light grey N7 — 200.85
					201		0.29	CLAYSTONE Medium grey N5, carbonaceous material at places, streaky and spot — 201.14
201.14	201.14 (0.59) 201.73	0.59					0.35	CLAYSTONE Medium dark grey N4, in the middle portion of the unit carbonaceous shale of few cm present — 201.49
							0.24	CARB. SHALE Highly carbonaceous, lower part grades into lignite greyish black N2 to brownish black 5YR2/1 — 201.73
201.73	(3.05)	3.05			202, 203, 204			CLAYSTONE Claystone medium light grey N6 to medium grey N5, upper 40 cm brownish grey 5YR4/1, upper 1.20 m is purely claystone which grades into silty claystone. Carby patches present — 204.78
204.78	204.78				205, 206			CLAYSTONE Silty, medium grey N6, hard, compact, lower part more silty, slickenside + black specks of organic material present — 206.20
206.20	206.20 (2.66)	- Nil -			207, 208			CORE LOSS — 208.86
208.86	208.86 (0.72) 209.58	0.72			209		0.55	CLAYSTONE + SIDERITE Siderite with claystone and about 12 cm of sandstone, many broken fragment of siderite — 209.41
							0.17	CLAYSTONE medium dark grey silty and sandy at places, [illegible] — 209.58
209.58	(3.05)	3.05			210			CLAYSTONE medium dark grey N_4 to N_3, massive to finely

contd

contd

DRILL-HOLE NO VAS-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								(CONTINUED FROM LAST PAGE)
							0.94	CLAYSTONE finely laminated, siderite nodules present, Slickensides, pyritic at places, shell fragment 210.52
							1.80	CARBONACEOUS SHALE Carbonaceous shale with coal layers dark grey N3 to brownish black 5YR 2/1, Coal particles concentrated in upper middle part, richly pyritized as a trace ment. 212.32
	212.32						0.31	CARBONACEOUS SANDSTONE light grey N7 to medium dark grey N4 fine to v.f, medium sorted, subrounded, coaly 212.63
212.32							0.85	SANDSTONE light grey N7, greyish black tint due to coal laminae, fine to v.f grains silty at places, siderite nodule in lower half 213.48
	(3.05)	0.85					2.20	CORE LOSS
	215.68							215.68
215.68							2.03	CORE LOSS
	(3.05)	1.02						217.71
	218.73						1.02	SILTSTONE Lower and upper part clayey, sandy at places, coaly laminae towards bottom, light brownish grey 5YR 7/1 upper & lower part dark grey N3 218.73
218.73							2.27	SILTSTONE Siltstone's lower contact grades into claystone, rich organic trashments in upper few centimeters, burrowed
	(3.05)	3.05						← Contd

DRILL-HOLE NO UAS-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
	(3.05)	3.05						Sandy at places, light bluish grey 5B 7/1, quartz grains of fine to v.f sand size present at places, [illegible] 221.0
							0.57	CLAYSTONE Medium dark grey N4, Silty at places, break with Concoidal fracture 221.57
	221.78						0.21	CLAY SHALE Greyish black to brownish black 5YR 2/1, [illegible] 221.78
221.78					222		0.38	[illegible] Brownish black 5YR 2/1, richly carbonaceous about 7cm in the upper part is Coal 222.16
							0.25	CLAYSTONE Medium dark grey N4 to dark grey N3, high [illegible] of organic material 222.41
							0.39	COAL Dark brownish black dull lignite, [illegible] upper + lower part are flakey, middle [illegible] 222.80
	(3.05)	3.05			223		0.71	CARBY SHALE Greyish black N2 to brownish black 5YR 2/1, Varieties of organic fragments 223.51
							0.37	CLAYSTONE Medium dark grey N4 Compact, massive organic material gives black tint 223.88
					224		0.95	CARBY SHALE Greyish black N2 to brownish black 5YR 2/1 organic fragments richly present, Pyritized, flakey at places 224.83
	224.83							
224.83					225		0.44	CLAYSTONE Silty at places, massive to finely laminated dark grey N3, Pyritized, organic mat. 225.27
							0.51	[illegible]STONE upper 32 cm intercalated Coal laminae, medium light grey N6 to medium dark grey N4 225.78
	(3.05)	0.95			226			
					227		2.10	CORE LOSS
	227.88							227.88
227.88					228			
					229		2.45	CORE Loss
					230			

CONTD-..

DRILL-HOLE NO VAS-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								230.33
							0.60	Medium Coarse to fine, Silty at place, Subangular to Subrounded coal to poorly sorted, medium bedded, medium 230.93.
230.93	230.93							
	(3.05)	NIL			232			Core Loss
	233.98				233			233.98.
233.98					236			Core loss
	237.03				237		0.24	SANDSTONE Moderate yellowish brown 10YR 5/4, medium 237.07 Coarse to fine, medium rounded, densely cemented 237.27
	(1.30)	0.90					0.67	SANDSTONE Medium dark grey N4, fine grain to v-f grained, Subrounded Coal laminae
	238.33				238			CORE Loss 237.94, 238.33
238.33								claystone, Silty + Sandy at place, lower 30 cm v-f to fine grained sandstone, medium dark grey N4, fissile Silty patches with claystone at place
	(3.05)	1.05			239			CLAYSTONE
							1.05.	CORE LOSS
					240			239.38
								CONTD.

DRILL-HOLE NO VAS-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					241			241.38
241.38	241.38							
	(3.05)	1.15			242		1.90	CORE Loss
					243			243.28.
							1.15	Medium grey N5, very fine coal laminae, v.f to fine, poorly cemented, loose, at places Siderite like lenses
								SANDSTONE
244.43	244.43							244.43
	(3.05)	0.35			245			
					246		2.70	CORE Loss
	247.13				247			247.13
	247.48						0.35	Clay stone Silty at places, dark grey N3 247.48
247.48								Coarse quartz grains present in burrow like features Carbonaceous material present.
	(2.52)	2.10			248		1.70	Claystone.
					249			249.18
							0.40	SANDSTONE Medium dark grey N4, coal laminae present, v.f to fine grained, loose 249.58
							0.45	CORE Loss
250.00	250.00				250			250.03

-FALLS-

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0.0	02.00				1		2.00	SHALES: maroon, light grey, earthy, non calc. 02.00
02.00	04.00				3		2.00	SHALES: Same as above. 04.00
04.00	06.00	NON-CORING			5		2.00	SHALES: Same as above 06.00
06.00	08.00				7		2.00	SANDY SHALES: Yellowish brown, gypseous. Calcareous 08.00
08.00	10.00				9		2.00	SANDY SHALES: Same as above. 10.00
					1			SANDY SHALES: Same as above
					2			

Form 3b

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10.00	12.00						2.00	SANDY SHALES: Same as above. 12.00
12.00	14.00						2.00	SANDY SHALES: Same as above. 14.00
14.00	16.00	NON-CORING					2.00	SANDY SHALES: Same as above. 16.00
16.00	18.00						2.00	CLAYSTONE: Greenish grey, silty 18.00
18.00	20.00						2.00	CLAYSTONE: Same as above 20.00

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20.00	22.00						2.00	CLAYSTONE: Same as above. 22.00
22.00	24.00						2.00	CLAYSTONE: Same as above. 24.00
24.00	26.00	NON-CORING					2.00	CLAYSTONE: Same as above 26.00
26.00	28.00						2.00	CLAYSTONE: Same as above 28.00
28.00	30.00						2.00	LIMESTONE: Grey. Fossiliferous. (Foraams) 30.00

EOCENE

SONHARI

ONTACT

LAKHRA FM
PALEOCENE

Form 3b

-300-

DRILL-HOLE NO UAS-5

LAKHRA FORMATION

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30.00	32.00						2.00	LIMESTONE: Same as above. 32.00
32.00	34.00						2.00	LIMESTONE: Same as above 34.00
34.00	36.00	NON-CORING					2.00	LIMESTONE: Same as above. 36.00
36.00	38.00						2.00	SHALE; medium to light grey, earthy lime cutting, fossiliferous. forams., 2-3mm in dia discoidal forams 38.00
38.00	40.00						2.00	LIMESTONE: grey. with clay matrix, forams 40.00

Form 3b

DRILL-HOLE NO UAS-5

LAKHRA FORMATION

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40.00	42.00	NON-CORING					2.00	LIMESTONE: Same as abov 42.00
42.00	44.00						2.00	LIMESTONE: Same as abov 44.00
44.00	46.00						2.00	LIMESTONE: Same as above. 46.00
46.00	48.00						2.00	SHALES/CLAYSTONE: grey, with Cogum bed like Foram with clay matrix, Forams. 1-3mm dia, discoidal, very well preserved 48.00
48.00	50.00						2.00	SHALES/CLAYSTONE: Same as abov 50.00

Form 3b

DRILL-HOLE NO UAS-5

LAKHRA FORMATION

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
50.00	52.00	NON-CORING					2.00	LIMESTONE: Grey. Fossiliferous. slightly clayey. 52.00
52.00	54.00						2.00	LIMESTONE: Same as above not clayey. 54.00
54.00	56.00						2.00	LIMESTONE: Same as above 56.00
56.00	58.00						2.00	LIMESTONE: Same as above 58.00
58.00	60.00						2.00	LIMESTONE: Same as above 60.00

Form 3b

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DRILL-HOLE NO UAS-5

FORMATION LAKHRA

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60.00	62.00	NON-CORING					2.00	LIMESTONE: Same as above 62.00
62.00	64.00						2.00	LIMESTONE: Same as above 64.00
64.00	66.00						2.00	CLAYSTONE/SHALES: Grey with Forams 66.00
66.00	68.00						2.00	LIMESTONE: Grey, Fossiliferous, (Forams) 68.00
68.00	70.00						2.00	LIMESTONE: Same as above. 70.00

Form 3b

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
70	72						2.00	LIMESTONE, Gray. fossiliferous (Forams) 72
72	74						2.00	LIMESTONE, Gray. Fossiliferous, Forams 74
74	76	NON-CORING					2.00	LIMESTONE Gray, Fossiliferous, Forams 76
76	78						2.00	LIMESTONE Gray, Fossiliferous, Forams. 78
78	80						2.00	CLAY/SHALE Dark gray. N-3 to grayish black N-2 with few forams only in the upper part. 80

LAKHRA FORMATION PALEOCENE

LAKHRA FORMATION PALEOCENE

Form 3b

DRILL-HOLE NO UAS-5

BARA FORMATION

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
80	82				2.00			CLAYSTONE/SHALE Dark gray N3 to blackish gray N-2 82
82	84	NON-CORING			2.00			CLAYSTONE/SHALE Dark gray N3 to blackish gray N2 84
84	86				2.00			CLAYSTONE/SHALE as above 86
86	88				2.00			CLAYSTONE/SHALE as above 88
88	90				2.00			CLAYSTONE/SHALE as above 90

Form 3b

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DRILL-HOLE NO UA5-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
90	92						2.00	CLAYSTONE/SHALE blackish gray N2 to black 92
92	94				✓		2.00	CLAY/SHALE dark gray. 94
94	96	NON-CORING					2.00	CLAY/SHALE dark gray to blackish gray N2 Few quartz grains present <0.5 mm 96
96	98						2.00	CLAY/SHALE as above Sandy, few green coloured grains of glauconite <0.5 mm 98
98	100						2.00	CLAY/SHALE Gray to dark gray, sandy, slightly glauconitic. 100

Form 3b

DRILL-HOLE NO LAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
100	102						2.00	CLAY/SHALE Gray to dark gray, sandy with quartz grains Few < 0.5 mm size glauconite grains 102
102	104						2.00	CLAY/SHALE Gray to dark gray, highly sandy, quartz grains < 1 mm few black angular grains present Coal ?. Fe Mg minerals. occassional green rounded grains of glauconite. Sand is fine grained, subangular to subrounded. 104
104	106	NON-CORING					2.00	CLAY/SHALE Gray to dark gray highly sandy quartz grains < 1 mm Few black angular grains probably of Coal. Fe. Mg grains. Occassional green rounded grains of glauconite. Sand is fine to medium grained, subangular to subrounded 106
106	108						2.00	CLAY/SHALE Same as above 108
108	110						2.00	CLAY/SHALE Same as above 110

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RECOVERY CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
110	112					2.00	CLAY/SHALE Same as above 112
112	114					2.00	SHALE Dark gray N-3 Few quartz grains Fine to medium, angular to subangular Few rosy quartz grains, Glauconite grains present Few rounded coal cuttings 114
114	116	NON-CORING				2.00	SHALE Medium light gray N6 to medium gray N5 with few quartz grains, few calcite grains Few green glauconite grains. Shale is calcareous 116
116	118					2.00	SHALE Medium gray N-5 Glauconitic with few quartz grains Not calcareous 118
118	120					2.00	SHALE Medium dark gray N4 Same as above 120

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
120	122						2.00	SHALE Medium dark gray N-4 Same as above 122
122	124						2.00	SANDSTONE Medium light gray N6 Quartz grains Transparent to translucent. Very fine to medium grained, subangular to subrounded. Well to moderately sorted, glauconitic. Few black Fe grains. Sandstone not calcareous 124
124	126	NON-CORING					2.00	SANDSTONE Same as above 126
126	128						2.00	SHALE Medium gray N-5 Sandy, with few quartz grains, angular to subangular, fine grained. Transparent to translucent. 128
128	130						2.00	SHALE Silty, medium gray N5. Few shale cuttings are of Medium light gray N6 colour. Few very fine grained glauconitic grains present. 130

Form 3b

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
130	132						2.00	SHALE. Silty Medium gray N-5 Same as above 132
132	134						2.00	SHALE Silty, Medium dark gray N-4 Rest same as above 134
134	136	NON CORING					2.00	SHALE. Silty Sandy Dark gray N3 Few grains of quartz. Few very fine grains of glauconite Few fine grained pyrite Few black Fe Mg grains Slightly carbonaceous 136
136	138						2.00	SANDSTONE Medium gray N-5 Fine to medium grained, subrounded to subangular some grains are well rounded. Few fine grains of glauconite. Few Fe Mg grains 138
138	140						2.00	SANDSTONE Medium gray N-5 Rest is same as above 140

Form 3b

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
140	142						2.00	SANDSTONE Medium gray N-5 Same as above 142
142	144						2.00	SANDSTONE Medium gray N-5 Very fine to medium grained quartz Well to moderately sorted, subrounded to subangular. Transparent to translucent Few dark grains. Few reddish grains of iron oxides 144
144	146	NON-CORING					2.00	SANDSTONE Medium gray N-5 Same as above 146
146	148						2.00	SANDSTONE. Medium gray N-5 Same as above 148
148	150						2.00	SANDSTONE Medium gray N-5 Same as above 150

Form 3b

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
150	152	NON-CORING					2.00	SANDSTONE Same as above 152
152	154						2.00	SHALE/CLAY Dark gray N-3, Shale silty and slightly sandy, & glauconitic, few quartz grains few reddish iron oxides few black ferromagnesium grains few yellow grains Not calcareous 154
154	156						2.00	SHALE/CLAY Same as above 156
156	158						2.00	SHALE/CLAY Same as above 158
158	160						2.00	SHALE/CLAY Same as above 160

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
160	162				1 2		2.00	SHALE/CLAY Same as above 162
162	164				3 4		2.00	SANDSTONE: Light gray. Fine to med gr. Dominated transparent quartz grains. Subangular to Subrounded, black grains 2%; Less than a one percent White Light Brown and Cream grains. Some calcareous; Few rounded green grains. 164
164	166	NON-CORING			5 6		2.00	SANDSTONE: Same as above. 166
166	168				7 8		2.00	SANDSTONE: Same as abov but not clayey. 168
168	170				9 0		2.00	SANDSTONE: Same as above. 170
					1 2			

DRILL-HOLE NO LAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
170	172				2		2.00	SANDSTONE: Same as above 172
172	174				3		2.00	SANDSTONE: Clayey and Same as above. 174
174	176	NON CORING			5		2.00	SANDSTONE: 1% Dark probably carbonaceous grains and few white grains and Same as above. 176
176	178				7		2.00	SANDSTONE: clayey and Same as above few carbonaceous grains. 178
178	180				9		2.00	SANDSTONE: Same as above not carb grains present 180

DRILL-HOLE NO LAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
180	182				1 2		2.00	SANDSTONE: Slightly clayey and same as above 182
182	184				3 4		2.00	SANDSTONE: clayey and pyrite and same as above. 184
184	186	NON-CORING			5 6		2.00	SANDSTONE: dominantly quartz grains 1% carbonaceous grains. and same as above. 186
186	188				7 8		2.00	SANDSTONE: clayey, carb grains, Subangular & Subrounded gr and same as above. 188
188	190				9 0		2.00	SANDSTONE: clayey same as above. 190
					1 2			

Form 3a

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DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
190	192				1		2.00	SANDSTONE: Slightly clayey, dominantly quartz grains, fine grains, rare medium 2% black carbonaceous grains, few green rounded grains. 192
192	194				3		2.00	SANDSTONE: Clayey. 1% black carbonaceous grains, pyritic grains. 194
194	196	NON CORING			5		2.00	SANDSTONE: not clayey same as above. 196
196	198				7		2.00	SANDSTONE: fine grains, subangular & subrounded grains. 198
198	200				9		2.00	SANDSTONE: friable, dominantly quartz grains. and same as above. 200

Form 3b

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
200							2.00	SANDSTONE: Same as above
	202.00							202.00
202.00							2.00	SANDSTONE: Gray, fine to medium with black carbonaceous grains, subangular to subrounded with yellowish brownish coating.
	204.00							204.00
204.00							1.66	SANDSTONE Same as above.
	205.66							205.66
205.66	205.91	25					0.25	CLAYSTONE, DK.GY. Pyritic, resin
								205.91
205.91							0.27	CLAYSTONE: Same as above
					206.18			206.18
							0.31	COAL UAS-5-1
					206.49			206.49
		3.05	3.05				1.95	CLAYSTONE. Dark gray N3 to blackish gray N/2 with patches of pyrite mostly greenish. Carbonaceous. Few vitrenite lenses present.
					208.44			208.44
							0.52	COAL UAS-5-2
	208.96				208.96			208.96
208.96							0.20	COAL ~~UAS-5-3~~ UAS-5-2
					209.16			209.16
							0.30	COAL SHALY UAS-5-4
					209.46			209.46
							0.26	COAL UAS-~~5-3~~ 5-4
		6.75	3.05		209.72			209.72
							0.29	SHALY COAL UAS-~~5-3~~ 5-4
					210.01			210.01

NON CORING

WASH/CORING

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					210.01			210.01
							0.68	SANDSTONE: Slightly carbonaceous, med with grained Subangular, poorly sorted.
					210.69			
						1		Core loss.
						2	3.70	
						3		
						4		
					214.39			
							0.25	CARB SHALE and COAL laminae.
					214.64			
							0.97	SANDSTONE and Shale and Carb laminae. SST is med with gr. Subrounded sand grains dominantly quartz
					215.61			
							0.10	Claystone: light gray. in Colour. high Spaulti gravity 215.71
215.71	215.71							
							1.60	Core Loss
						7		217.31
							0.45	Claystone: Silty, dark gray, Pelches of very Fine gr. of Pyrite. Slightly Carbonaceous 217.76
							1.13	CLAYSTONE: light gray. Few Specks of Carb matter, Pyritic, rooted 218.79
						9	0.42	Claystone: light bluish gray, pyritic replace Carbonaceous. 219.31
							0.88	Claystone: light gray. Few. coaly laminations compact, Pyritic, burrow filled, Sand Spars, rooted. 220.07
						10		

WASH CORING

6.10

3.00

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
220.09						1	1.50	CORE LOSS 220.09 221.59
	221.81						0.22	CLAYSTONE Gray to dark gray. SLICKENSIDED, PYRITE REPLACED CARBONACEOUS MATTER 221.81
221.81						2 3	1.25	SANDSTONE, Gray, Calcareous. Fine grained, muddy, Few thin carbonaceous laminations At places patches of fine grained pyrite Few globules of yellowish brownge Resin Equigranular 223.06
	224.86	3.05	1.78				0.28	SANDSTONE, Gray to dark gray, fine grained, equigranular Muddy. With increased downward subangular to subrounded slightly friable 223.34
						4	1.27	CORE LOSS 224.61
							0.25	COAL UAS-5-7 ? 224.86
224.86							0.72	COAL ~~UAS-5-8~~ UAS-5-7 225.58
	227.91	3.05	0.72			6 7	2.33	CORE LOSS 227.91
227.91						8 9	3.05	CLAYSTONE Light gray, compact, slickensided, rooted, pyritic. Light gray to light bluish gray scattered rounded one mm size white to cream coloured grains. Few pockets (burrows?) filled with rounded grains and fine sand due to concentration of rounded grains. The middle part may be termed as sandy claystone.
	230.96	3.05	3.05					230.96

Form 3b

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DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								230.96
230.96							0.04	SHALY COAL UAS-5-9 231
							0.34	COAL UAS-5-10 231.34
							0.24	DIRTY COAL/CARBY SHALE UAS-5-11 231.58
	3.05	2.92					0.90	CLAYSTONE: Gray to blackish gray. Abundant carbonaceous lamination, Abundant carb plant matter. Spare spots of pyrite, Slickenside at Top 232.48
							1.20	SILTSTONE clayey. light bluish gray. plant fragments, few spots of very fine grained pyrite, Scattered rounded grains rooted, slickenside. Grades into Claystone 233.68
					233.88		0.20	CLAYSTONE, light gray, massive 233.88
	234.01						0.13	CORE LOSS 234.01
234.01							0.10	CLAYSTONE: Light gray, brown nodule. 234.11
							1.20	SILTSTONE & SANDSTONE interbedded with fine carb laminae. pyrite, nn calc. 235.31
	3.05	2.62					0.43	SANDSTONE: Core loss same as below 235.74
							0.40	SANDSTONE: Light grey. soft, fine to med. gr. Subangular & Subrounded, non calc. With fine carb layer at places 236.14
							0.10	SANDSTONE. hard, Compact. 236.24
							0.10	SANDSTONE: fine gr. 236.34
	237.06						0.72	SANDSTONE: Gray, hard. compact. gypseous calcareous, Solution cavity 237.06
237.06								SANDSTONE: Core loss, loose, soft, friable and same as above.
	3.05	0.80					2.25	239.31
	240.11						0.80	SANDSTONE: Grey, earthy gray. hard, compact few glauconite grains. muddy, shell fragments calcareous, pyritic grains present. 240.11

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
240.11	243.16	2.56			241		0.80	SILTSTONE: Gray to Dark gray, semi hard, compact slightly clayey, calcareous, fossil shell fragments (Gastropod) pyritic 240.91
							0.54	FOSSIL HASH: Gray to Dark gray, semi hard, semi compact, highly fossiliferous Gastropode, Foramns, fossil shell fragments 241.45
							0.30	FOSSIL HASH & COAL interbedded: Fossil hash gray to dark
					241.75		0.49	Gr. slightly clayey, highly fossilli ferous, Shell frag. calc. coal brownish black, soft, pyritic, fossil has and coal interlaminated and inter layered. 241.75
					242		0.42	Core loss probably Dirty Coal Core loss. 242.24
					242.24			42
							0.50	Dirty COAL 242.66
					243			COAL · UAS-5-12 243.16
243.16	246.21	1.82					0.62	COAL UAS-5-13 243.78
							1.23	Core loss. Probably Coal and Carbonaceous Shale 245.01
							0.16	CARBONACEOUS MUDSTONE: Black, contain few patches of very fine grain pyrite, few coaly lamination, Abundant carbonized plant fragments, many replaced by very fine grained pyrite, coaly specks common thin globules of brown resin. 245.16
							0.75	MUDSTONE: Dark gray, contain carbonized plant frag many replaced by fine grained pyrite, sparsely rooted 245.91
							0.30	MUDSTONE INTERLAMINATED WITH SAND. Dark gray contain carbonized plant fragments, Many replaced by fine grain PHrite sparsely rooted. 246.21
246.21	249.26	1.40					0.90	MUDSTONE: interlaminated with Sand · Dark gray Sand fine gr. semi hard, semi compact 247.11
							0.50	SANDSTONE interlaminated with Mudstone Light grey & Dark gray. Sand fine gr 247.61
							1.65	Core loss Sandstone same as above. 249.26
249.26		1.35					1.35	SANDSTONE INTERLAMINATED WITH MUDSTONE

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							1.35	SANDSTONE INTERLAMINATED WITH MUDSTONE: Light to Dark gray, Sandstone. Fine gr, Semi hard, semi compact resin. 250.61
							1.70	Core Loss Same as abov 252.31
	252.31							CORE LOSS 253.80
252.31	1.69	0.20					1.49	SILTSTONE: Light gray, Abundant specks and thin lamination of carbonaceous shale matter, muddy. Contain one light brown hard, nodular probably of Siderite, thin coal lamination in the lower 0.01 MC (cm) 253.98
	254.00						0.18 0.02	SANDSTONE, Grayish white. Med to coarse grained hard compact. Subang to subrnd grains 254.00
254.00	2.80	1.50					1.50	SANDSTONE: clayey. Light gray. Fine to very fine grained. compact in the upper half. Friable & less clayey in the lower part half. two bands of carbonaceous sand few light brown, hard nodular, probably of Siderite, grains mostly subangular few subrounded 255.50
							1.30	Core loss Sandstone 256.80
	256.80							
256.80	2.20	0.85					1.35	SANDSTONE: same as abov Coreloss 258.15
							0.60	SANDSTONE: Muddy, carb lamination at base Light gray, fine to med grained friable. Muddy and comparatively compact in the lower half. 258.75
	259.00						0.25	SHALE: Dark gray. contain Sand pockets. 259.00
259.00	3.00							SANDSTONE Gray to dark gray, soft, fine to med grained Subangular to subrounded. Slightly carby. Grades into silty sandstone near the base (Description from cuttings, Core not handed over)
	262							262.00

Form 3b

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
262	265	3.00						262.00 SILTY SANDSTONE Gray to dark gray. Sandstone grades into claystone CLAYSTONE. Gray, semi hard, compact, pyritic with sandy lenses SILTYSANDSTONE, Gray, fine to medium grained, Semi hard, Semi compact, clayey, slightly earby grades into claystone CLAYSTONE, Gray, semi hard, compact, pyritic with sandy pockets (CORE not handed over, description from cuttings and watching core). 265.00
265	268.18	3.18						CARBONACEOUS SANDSTONE Gray to blackish gray, fine to medium grained Soft to semi hard, slightly clayey, subangular to subrounded. Pyritic. Plant leaf impressions at places. 268.18
268.18	271.74	3.06						CARBONACEOUS SANDSTONE Dark gray to blackish gray, soft to semi hard slightly clayey. Fine to medium, Subangular to subrounded grains. 271.74

CORE NOT HANDED OVER LOSS COULD NOT BE RECORDED

Form 3a

DRILL-HOLE NO UAS-5

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1			271.24
271.24	274.60	3.36			2 3 4		2.01	CARBONACEOUS SANDSTONE Same as above 273.25
							1.10	COAL UAS-5-14 274.35
							0.25	CARBY CLAYSTONE GRAY TO DARK GRAY, HARD, COMPACT PYRITIC SLIGHTLY SILTY 274.60
274.60	277	2.40			5 6 7			SANDY CLAYSTONE, light grey to grey, semi hard, semi compact. Pyritic, slightly carby, Grades into carby Claystone CARBY CLAYSTONE, Dark gray, Semi hard, Semi compact Pyritic with coaly flakes, rooted Grades into Sandstone 277
277	278	1.00			7			SANDSTONE, Light grey fine to medium grained, subrounded to subangular, mostly subrounded. Soft, Friable very slightly clayey Mostly quartz grains 278
278	280	2.00			8 9 0			SANDSTONE Light gray to grey fine to medium grained dominantly quartz grains, muddy 280
280	282	2.82			1 2			SANDSTONE Same as above 282

- CORE NOT HANDED OVER -
LOSS NOT RECORDED

Form 36

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DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0.0	2.00	NON-CORING					2.0	LIMESTONE: Light yellowish brown, hard, compact fossiliferous (Forams black clear coating Lst cutting of weathering
2.00	4.00						2.0	LIMESTONE: Same as above not black coated Lst cutting.
4.0	6.0	NON-CORING					2.0	LIMESTONE: Same as above more fine Lst cutting.
6.0	8.0						2.0	LIMESTONE: Same as above
8.0	10.0	NON-CORING					2.0	LIMESTONE: Same as above
10.0	10.0							

LIME STONE

ETING

Form 3b

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10.0	12.0	NON-CORING					2.0	LIMESTONE: Same as above.
--	14.0						2.0	LIMESTONE: Light pinkish brown, fossiliferous (forams) hard, compact.
14.0	16.0	NON-CORING					2.0	LIMESTONE: Same as above.
16.0	18.0						2.0	LIMESTONE: Same as above.
16.0	18.0	NON-CORING					2.0	LIMESTONE: Same as above.
18.0	20.0							

LIMESTONE

METING

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20.0		NON-CORING					2.0	LIMESTONE: Same as above.
22.0	22.0						2.0	LIMESTONE: Same as above.
24.0	24.0	NON-CORING					2.0	LIMESTONE: Light yellowish brown, and Same as above
26.0	26.0						2.0	LIMESTONE: Same as above.
28.0	28.0	NON-CORING					2.0	LIMESTONE: Light yellowish brown earthy brown, slightly sandy. Fossiliferous (foraams)
30.0	30.0							

LIMESTONE

METING

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30.0							2.0	LIMESTONE: Same as above but more sandy
32.0	32.0						2.0	SANDSTONE: Light gray, fine grained mostly subangular grains calcareous, limy cutting, soft
34.0	34.0						2.0	SANDSTONE: Light gray and same as above.
36.0	36.0				37.50		2.0	SANDSTONE: Light gray to Dark gray very fine grained slightly clayey and carbonaceous cutting (may some dirty coal) (SONHARI COAL)
38.0	38.0				38.0		2.0	SANDSTONE: Medium gray, fine gr. 80% Subangular grains, calc with carb cutting
40.0	40.0							

NTA METING LIMESTONE

SONHARI BEDS

DRILL-HOLE NO UAS-6

SONHARI — SONHARI

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40.0		NON-CORING					2.0	SANDSTONE: Light gray, maroon, light yellowish brown (weathered). Fine grained. 60% Subangular grains, pyritic grains present 20% Calc.
42.0	42.0						2.0	SANDSTONE: Same as above.
44	44	NON-CORING					2.0	SANDY CLAYS: Gray. Fine to med Sandstone, pyritic, carb cutting, Sandstone mostly subangular.
46	46	NON-CORING					2.0	~~SANDY CLAYS: Same as above~~ CARB CLST
48	48	NON-CORING					2.0	SANDY CLAYS: Fine to coarse Sandstone mostly rounded grains, Calc
50	50.							

Form 3b

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DRILL-HOLE NO U.AS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RECOVERY CORE	CORE RECOVERY CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
50		NON-CORING					2.0	SANDY CLAYS: Same as above
52	52						2.0	SANDYCLAYS: Same as above, weathered
54.	54.0	NON-CORING					2.0	SANYCLAYS: fine grained, Sands lone and mostly rounded grains, calc, weathered
56.0	56.0						2.0	SANDYCLAYS: Same as above weathered
58.0	58.0	NON-CORING					2.0	SANDYCLAYS: Same as above
60.0	60.0							

SONNIARI

SONNIARI

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60.0		NON-CORING					2.0	SANDY CLAYS: Same as above
62.0	62.0						2.0	LIMESTONE: Light gray, slightly clayey, fossiliferous (Forams) and slightly clayey.
64	64	NON-CORING					2.0	LIMESTONE: Same as above
66	66						2.0	LIMESTONE: Light gray, hard, compact, fossiliferous (Forams) not sandy.
68	68	NON-CORING		N	1		2.0	LIMESTONE / Same as above. Shale
	70.0							

CONTACT SONHARI

LAKHRA FORMATION

Form 3b

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
70.00	72.00						2.00	LIMESTONE/SHALES: Same as abov 72
72.00	74.00						2.00	LIMESTONE/SHALES Same as abov 74
74.00	76.00	NON CORING					2.00	Limestone/Shales Same as above 76
76.00	78.00						2.00	LIMESTONE/Shales Same as above. 78
78.00	80.00						2.00	LIMESTONE/Shales Same as abov 80

Form 3b

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
80.00	82.00						2.0	LIMESTONE/Shales Same as above. 82
82.00	84.00						2.0	LIMESTONE (BEDD) 84
84.00	86.00	NON-CORING					2.0	LIMESTONE, Slightly clayey, fossils forms (forams) percentage reduced, fine to medium cutting of Limestone, Dark gray Shale cutting. 86
86.00	88.00						2.0	LIMESTONE/SILTSTONE, formaniferal and Same as above 88
88.00	90.00						2.0	Siltstone: Legiet gray. formaniferal Sandy, fine to medium gr, Sub angular to Subrounded, clayey. ligiht calcareous. 90

Form 3b

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
90.00	92.00						2.00	Siltstone : Same as above. 92
92.00	94.00						2.00	Siltstone : Slightly clayey, few forams and same as above 94
94.00	96.00	NON-CORING					2.00	SILTSTONE : Same as above. 96
96.00	98.00						2.00	LIMESTONE: (BED E) interbedded pyritic, grains present, few forams. 98
98.00	100.00						2.00	LIMESTONE: Light gray, hard, cutting compact, slightly clayey, forams, pyritic grains present. 100

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
100	102	NON-CORING					2.00	LIMESTONE / Sandy Shales Light gray, silty, sandy, clayey, fine to med gr, Subangular to Subrounded 102
102	104						2.00	Sandy Shale / Siltstone : Light gray Same as / above. 104
104	106						2.00	Sandy Shale / Siltstone Light gray Same as above. more Silty 106
106	108						2.00	Siltstone : Same as above 108
108	110						2.00	Siltstone : Same as above. 110

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
110	112						2.00	Siltstone same as above. 112
112	114						2.00	Sandy clays / Sandstone 114
114	116	NON-CORING					2.00	Sandy clays / Sandstone 116
116	118						2.00	Sandy clays / Sandstone 118
118	120						2.00	Limestone / Sandy clays (B) Light gray. gray shale cutting, hard Foraminiferal, Silty, Sandy, fine to med gr. Subangular to Subrounded. 120

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
120	122						2.0	LIMESTONE: BED(B) Light gray, hard cutting, richly fossiliferous silty, sandy, fine gr, subrounded. 122
122	124						2.0	Sandy/Shale: Gray Silty, calcareous very fine to med gr, sub angular to subrounded, fossiliferous, a few limestone cutting. 124
124	126	NON-CORING					2.0	Sandy Shale/Sh Same as above. 126
126	128						2.0	Sandy clays/Sh Same as above. 128
128	130						2.0	Sandy clays/Sh Same as/above 130

Form 3a

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DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
130	132				1 2		2.0	Sandy clays/Sh Same as above. 132
132	134				3 4		2.0	Sandy clays/Sh Same as above. 134
134	136	NON-CORING			5 6		2.0	Sandy clays/Sh Same as above 136
136	138				7 8		2.0	Sandy clays/Shale Same as above. 138
138	140				9 0 1 2		2.0	Sandy clays: Gray, Silty, fine gr. Subrounded, formaniferal. 140

Form 3b

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
140	142						2.0	LIMESTONE (BEDA Marker) Light gray, hard cutting, richly Foraminiferal, Silty, Sandy, fine gr Subrounded Shale fragment 142
142	144						2.0	Shale, Gray, Sandy, fine to med gr, Subrounded, Silty 144
144	146	NON-CORING					2.0	Sandstone: Light gray, fine gr Subrounded, Silty, clayey. 146
146	147.50						1.50	Sandstone: Same as above 147.50
147.50	149.91			149.91			2.41	Sandstone; & Same as above. 149.91 SILTY SANDSTONE! 150

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	151.19	1.28	1.23		151.14		1.23	SILTY SANDSTONE: Medium gray, medium hard, medium compact, throughout slightly clayey sandstone very fine gr. Shell fragments at top about 0.70 (149.91 to 150.61) it is sharp change very shell fragments towards base. contain pyritic grains at places
151.19					151.26		0.07	
							0.40	SILTY SANDSTONE: Same as above. not shell frag.
								SILTY SANDSTONE: Core Loss same as above
		2.39	2.32		152		1.04	MUDDY SILTSTONE: Medium gray, medium hard, medium compact, not calcareous, very rare shell fragments, slightly clayey, very fine grains sst, mostly sub angular grain, plant leaf impression on. replaced by pyrite at places.
					152.70			
					153		0.55	
	153.58				153.25			MUDDY SILTSTONE: mostly shell fragment clams, decreasing towards base not sharp contract, and same as above
153.58					153.58		0.33	
					154		1.45	MUDDY SILTSTONE: Medium gray, not rich in shell frag clayey, clayey nodule of rep pebbast about .01 cm to .04 cm at places, plant leaf impression at places; pyritic and same as above.
		3.02	3.02		155			MUDDY SILTSTONE: rich in shell fragment at ~~places~~ Top and decreasing towards base and same as above not clayey as above, not clayey nodules
					155.53			
					156		1.08	MUDDY SILTSTONE: Medium gray, medium hard, medium compact, not calcareous, few shell fragments at places, very fine sandy layers at places, few nodules at places
	156.61				156.61			
156.61					157		1.10	Claystone: Medium gray, medium compact, very fine carb frag. ? micaceous, mostly Silty, Silty nodules throughout are calcareous, rare shell frag. at places, pyritic globules at places, Slickenside compaction
		3.01	3.01		157.71			
					158		0.80	Claystone, Silty and same as above.
					158.51			
					159		1.11	SILTY CLAYSTONE: Medium gray, medium hard, medium compact, not nodules present. fossil shell fragments as above
	159.62				159.62			SILTSTONE: Light greenish gray, hard compact, foraminiferous C forams, glauconitic grain Common. pyritic grain common, pyritic gram at places, clayey, calcareous sideritic module in lower part and borrows, Sandy fine to med gr. Sub angular to Sub rounded
					160			
								SILTSTON: Probably As above Core loss
					1			
					2			

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					160.17		0.55	SILTSTONE : Same as above CORE LOSS
					160.27		0.10	
							0.40	SILTY CLAYSTONE ; Medium gray, medium compact, rare Shell frag contain few pyritic grain not calcareous.
					160.67			
					160.94		0.27	
					161			SILTY CLAYSTONE & SANDSTONE interbedded
		3.06	2.51				0.54	Sandstone Med gray, fine gr, mostly subrounded grains pyritic grain, fine carb layer towards base. Silty claystone also Med. gray
					161.48			
					161.88		0.40	
					162			DIRTY COAL / HIGHLY CARBSHALE. Brownish black, pyritic plant impression at the base
	162.68				162.68		0.80	UNDER CLAY ; Light gray, silty, non calc, rooted contain pyritic grain replaced by pyrite
162.68								
		0.75	0.75		163		0.75	Claystone ; gray, medium hard, medium compact, Sideritic nodules about .03 cm are common, pyritic grains at places, Slickenside compaction, plant root, slightly sandy towards base
	163.43							
163.43					163.65		0.22	
					164			Sandstone & Siltstone interbedded : Medium gray medium hard, medium compact, very very fine sandy layer interlaminated with SST, mostly subrounded sst contain pyritic, heavy light brown, Sideritic nodules towards base
		3.0	2.20	0.80 Loss			1.98	
					165			
					165.63			CLAYSTONE : Gray, mostly Sideritic light yellowish brown nodules, pyritic, sandy towards base, fine to med gr sst, mostly subrounded grains
					166		0.80	
	166.43							
166.43								Siltstone & Sandstone interbedded : Medium gray Sandstone, fine gr. mostly subrounded grains, pyritic grain. Sandstone & Siltstone interlaminated, contain fine Carby particle towards base
					167		0.64	
		1.20	1.05	0.05 Loss	167.07		0.89	
								Siltstone & Sandstone interbedded, Same as above.
					167.96			
	168.13				168		0.17	Siltstone & Sandstone interbedded ; Same as above
166.43								
					168.43		0.30	
							.06	Siltstone & Sandstone interbedded ; Sandstone layer thickening towards base, mostly subrounded Sandstone fine grain, fine Carby layer interlaminated with Siltstone Sideritic nodule in middle
					169		.94	
		2.42	1.30		169.43			
					170		1.12	Carbonaceous Siltstone & Sandstone interbedded
	170.55				170.55			Sandstone fine gr, Siltstone Carby, Coaly flacks contain very fine pyritic layer interlaminated
								Siltstone : Gray. Med hard, medium compact. few sandy patches at places, not calcareous, few Sideritic nodules, grading towards base
					1			Siltstone, hard, compact, heavy, Sideritic
								Claystone : Gray, Medium hard, medium compact, throughout Sideritic light yellowish brown nodules, slightly silty, slickenside compaction
					2			Siltstone : Core Loss

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					170.53		0.3	Siltstone : Light gray, medium compact, slightly clayey, shell fragments, not calc
		1.95'	1.95'		171		0.30	Claystone : Gray, medium hard, medium compact, Siderite nodule common. very Carb fragment, non calcareous, grading Siltstone towards base
					171.18		0.70	Silty claystone : Medium gray, medium hard, medium compact contain shell fragment at places not calc. grades into clayey Towards base
172.50		178.50			171.88 172		0.62	Claystone : Medium gray, medium hard, medium compact not calc contain shell fragment at places, grades into Silty towards base
172.50					172.76		0.26	
		3.06	2.80		173		0.83	Silty claystone : Core Loss
					173.59		0.30	Silty Claystone : Light gray, medium hard, medium compact, very slight calcareous, contain fine shell fragments, more silty towards base
					173.89 174		0.40	
					174.29		0.40	Siltstone : Light gray, medium hard, medium compact, very slightly calcareous, fine shell fragments, more silty towards base
					174.69			
					175		0.87	
	175.56				175.56			Glauconitic Fossil Hash, coarse glauconitic grain, shell fragments rich - Greenish gray, hard, compact. clam. 01 Coaly layer at the base.
175.56					176		1.30	Shelly Coal interlaminated with Fossil Hash, Brownish black, pyritic
		3.01	2.0		176.86			UNDER clay : Dark gray, medium hard, medium compact, slightly carb, highly rooted, plants replaced by pyrite, Silty towards base
					177		0.70	
					177.56			Siltstone 1.30 : grey, medium hard, medium compact, slightly clayey, rooted at bely upper part, not calcareous, very fine carb layer at places, grades Sandy towards base.
					178		1.01	
178.57	178.57							Silty 0.70 Sandstone : Light gray, medium compact, medium hard, sst, fine grain, mostly Subrounded grain contain pyritic globules at place, grading sandy towards base and plant roots replace by pyrite at place.
					179		1.36	Sandstone 1.01 : Core Loss Same as above.
					179.93 180			Sandstone 1.36 : Core Loss Same as above.
					1			
					2			

Form 3a

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	181.63	3.06	1.70		181 / 181.63		1.70	Sandstone: Light gray, soft, loose, friable friable, fine grained, mostly subrounded grain very slightly clayey and fine carby layer in middle, non calcareous.
181.63	183.94				182 / 183 / 183.02 / 183.88		1.39 / 0.86 / 0.06	Sandstone: Core loss same as above. Sandstone: Same as above. Sandstone: offwhite, hard, compact, calcareous mostly quartz grains contain plant leaf impression very clear and also contain slightly pyritic parting at places. Sandstone: offwhite, light gray, hard, compact woody, fossil replace by pyrite also carbonaceous coarse grained sandstone, and subangular to subrounded calcareous, mostly quartz grains, clayey patches.
183.94	184.64	0.70	0.20		184 / 184.14		0.20 / 0.50	
184.64	186.34	1.70	1.15		184.94 / 185 / 185.23 / 185.79 / 186		0.30 / 0.13 / 0.16 / 0.66 / 0.55	Mudstone: wash core loss as below. Mudstone: Gray, medium hard, slightly silty resin contain burrows, few pyritic grains at places, not calcareous. Siltstone and Sandstone interbedded Medium gray-Medium hard, Medium compact, slightly clayey, Medium gray sandstone mostly subangular grains, few coarse grains Sandstone few pink grains.
186.34	187.64	1.30	1.30		187.95 / 187		0.61 / 0.69	Sandstone: Light yellowish brown, soft to medium hard, fine gr sandstone, mostly rounded grains, few layer of sst, slightly clayey, non calcareous.
187.64		3.00	1.90		187.84 / 188 / 189 / 189.54 / 190		0.20 / 1.70 / 1.10	Sandstone & Siltstone interbedded: Medium gray medium hard, medium compact fine grain sandstone, mostly rounded grains, few layer of sst, slightly clayey, non calcareous. Sandstone & Siltstone interbedded Core Loss Same. 0.69 Sandstone & Siltstone interbedded layer grading close towards base. 0.20 Sandstone & Siltstone interbedded, silty part decreasing and same as above. 1.70 SANDSTONE: Medium gray, medium hard, medium compact fine gr sst, mostly subrounded grains, slightly clayey, very fine carb layer grading towards base not calc. Contain pyritic globules at places, ~~also~~ also contain plant fossil, 04 hard sst in middle.

CORE LOSS

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION UAS-6
	190.69						1.10	Sandstone : Same as above. CORE LOSS
190.69					191		0.65	SANDSTONE : Light gray. soft, friable, fine gr, subangular to subrounded grains, very fine slightly carb layer at places, slightly clayey, not calcareous
					191.34			Sandstone : Core Loss Same as above
		3.06	0.65		192		2.41	Sandstone : Same as above
					193			Sandstone : Core Loss Same as above
	193.75				193.75			
193.75					194		1.23	Sandstone : Core Loss Same as above
		1.71	1.23		194.98		0.98	Sandstone : Same as above but some coaly fragments attached at places
	195.46							
195.44					196		0.71	
					196.17		1.34	Sandstone & Silty Claystone interbedded gray, Medium hard, fine grained, Sandstone, mostly Subangular grains, plant roots, leaf impression replaced by pyrite, non calcareous, grading more clayey towards base
		2.95	2.24		197			
					197.51		0.90	
	198.41				198			Siltstone & Silty claystone interbedded : Medium gray medium hard, medium compact, Siltstone & Silty claystone inter layered, fossil shell frag/ment contain pyritic grain slightly calcareous. grading clayey towards base
198.41					198.71		0.30	
					198.96		0.25	
					199		0.17	
		3.06	3.06		199.13		0.19	
					199.32		0.40	Claystone[23] : Gray, medium hard, medium compact, Silty slightly carby, plant leaf impression replaced by pyrite and shell fragment, not calcareous
					199.72		0.40	
					200.12			Carb claystone[17] : Dark gray, medium hard, medium compact, plant root impression, replaced by pyrite
								Shelly coal[19] : Brownish black, resinous, pyritic
								Carb claystone[40] / UNDER CLAY Dark gray, medium compact medium hard, rooted, pyritic, grading silty towards base
								Silty claystone[40] : gray, medium hard, medium compact, rooted replaced by pyrite.

Form 3a

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION UAS-6
					200.12			Siltstone + Sandstone interbedded
							1.35	Light gray sst. fine gr, mostly subrounded grains, slightly clayey, SSt and Siltstone interlayered and interlaminated few sideritic nodules at upper part & base not calc.
	201.47				201.47			
201.47					201.53		0.06	Siltstone and Sandstone interbedded
		0.66	0.60				0.60	Silty Sandstone & Silty Claystone. interbedded
	202.13				202			Light gray. & Medium gray. grading clayey towards base
202.13		0.44	0.44					SSt, fine gr, mostly subrounded grains, fine Carby layer at places, non calc
	202.57				202.57		0.44	
202.57							0.50	Silty Sandstone & Silty claystone interbedded
					203			Same as above, more clayey towards base.
					203.07			
		3.10	3.0				1.93	Silty claystone & Silty Sandstone interbedded, clayey part more increasing and Siltstone, Silty Sandstone more decreasing becoming fine layer and same as above
					204			
					204.97			Claystone; gray, Medium compact, medium hard slightly silty, pyritic, grading silty towards base
					205		0.40	
	205.67				205.37		0.20	SILTY CLAYSTONE and Sandstone interbedded Light gray sst. fine gr. mostly subrounded grains. not calc., grading sandy towards base
205.67								Same as above Core loss
					206		0.95	Siltstone and Sandstone interbedded: medium gray & gray, Medium compact, fine gr. sst. mostly subrounded grains, Sandstone and Siltstone interlayered and interlaminated fine Carby layer at places, slightly clayey, grading more sandy towards base pyritic grains at places, non calcareous
					206.62			
		2.33	1.82		207		0.92	
					207.54		0.46	
	208.0							Sandstone: Light gray. soft, friable, mostly rounded grains, slightly Carby, slightly clayey not calc
208.00					208			
		3.09	3.09				1.20	Sandstone: Same as above Core Loss
					209			
					209.20			Siltstone and Sandstone interbedded; Light gray sst. fine gr, subrounded grains, Silty claystone gray, clayey Silty claystone and sandstone interlayered, pyritic, fine Carb. layer at places, plant impression replaced by pyrite
					209.40		0.20	
					210			Silty Sandstone: Med. gray. Medium hard. fine gr sst, mostly subrounded grains, slightly clayey, plant impression replaced by pyrite at places more sandy towards base not calc
					2			

Form 3a

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DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION UAS-6
					211		1.69	Silty Sandstone : ~~ND~~ Same as below
	211.09							Sandstone: Light gray, soft, friable, mostly Subrounded grains, fine to Med gr. Carb layer in middle, not Calcareous
211.09		1.71	1.50		211.59		0.50	
					212		1.00	Sandstone: Medium gray. soft to Medium Compact interlaminated with fine Carb. layer Throughout, resiness, not Calc
	212.80				212.59			Sandstone Core loss Same as above
212.80					212.80	X	0.21	
					213		0.55	Sandstone : Same as above Core loss.
		1.30	0.35		213.35		0.48	Sandstone : Light gray, soft, fine grained. Subangular to Subrounded gr. not calcareous
	214.10				213.83			
					214		.027	Sandstone & claystone interbedded : Light gray, medium gr SST, Subrounded, more clayey towards base, not calc
214.01							1.0	
		2.91	2.91		215			Sandstone : light gray. soft to semi hard. fine gr Subrounded grains, not calcareous, Silty towards base
					215.10			
					216		1.91	Silty Sandstone : Light gray, soft to semi hard fine gr. Subrounded grains, not calc, Silty towards base
	217.01							
217.01					217			Silty Sandstone : Same as above
		3.08	2.90		218		2.90	Silty Sandstone : Core loss Same as above.
					219			
					219.91	219.91		
					220	X	0.16	
					2			

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
220.07					220.07			Silty Sandstone as above CORE LOSS
		3.06	3.06		221		3.06	Silty Sandstone : Same as above
					222			Siltstone and claystone interbedded
	223.13				223			Light gray. medium hard, medium compact plant leaf impression at places replace by pyrite and carby specks, not calcareous, grading sandy towards base
223.13					224		1.0	
		3.06	3.06		224.12		0.88	Sandstone : Light gray, medium hard, fine gr. mostly sub angular grains, slightly clayey plant leaf impression, pyritic, carby towards base
					225		0.38	
					225.29		0.40	HIGHLY CARB SHALE / DIRTY SHELLY COAL?: Brownish black clayey, pyritic, reseneus. Sandy at base
	226.19				225.69		0.40	
226.19					226			CARB SANDSTONE : Brownish black, Dark brown, soft. fine to med SST. subrounded grains. coaly traces and fragments and not calcareous
		3.06	3.06		226.27		0.08	Sandstone : same as above.
					227		2.20	Silty Sandstone : Light gray, Medium hard, medium compact fine gr. subrounded grains, slightly clayey, not calcareous carb parting at places
					228			Sandstone : off white, hard, compact. fine to med gr mostly subrounded grain, calcareous, pyritic
					228.47		0.27	
					228.74		0.10	Sandstone : Light gray. soft. friable fine gr. mostly subrounded grain, not calcareous
					228.84			
	229.25				229		0.41	
229.25								SANDY CLAYS : Light gray to Medium gray. fine gr. sst. more clayey towards base, subrounded grains, roots replace by pyrite
		3.06	3.06		230			Silty claystone : Medium gray : Medium hard, medium compact, very fine sandy layer at places. light yellowish brown, Siderite nodules in the middle Slickenside compaction
					1			
					2			

Form 3a

DRILL-HOLE NO MAS-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
		3.06	3.06		230.95		1.40	Silty claystone Medium gray. Medium hard, medium compact, very fine sandy layer at places, light yellowish brown, Sideritic nodule in the middle, slickensided compaction
					231		1.22	Sandy clays ; light gray, medium compact, Medium hard, slightly calc at base, fine carb parting at places.
					232			Sandy clays ; Same as above
	232.31				232.17		0.14	
232.31		0.90	0.90		232.91		0.60	Silty claystone ; Medium gray. medium compact, slightly carb, plant leaf impression at places, non calcareous
	233.21				233		0.30	Carb Silty claystone Gray & Dark gray, medium compact, medium hard, plant root replaced by pyrite Coaly specks at places
233.21		3.02	3.02		234		1.90	Silty claystone ; Medium gray. medium compact, slightly Sandy at places, sst, mostly fine grains Subrounded grains rooted replaced by pyrite, Sideritic nodules, light yellowish brown heavy at the base grading sandy towards base
					235			
					235.11		0.43	
					235.54		0.66	Silty Sandstone ; light gray. medium compact, medium hard, fine gr sst, mostly Subrounded grains, fine carby parting present. grading clayey towards base
	236.23			236.23	236			
236.23		3.06	3.06		236.20		0.35	Silty Claystone ; Medium gray, medium compact, medium hard, & heavy Sideritic Siltstone, slightly pyritic parting towards base and also carby towards base
					236.68		0.02	
					236.70		0.78	
					237		0.08	Carb Shale ; Brownish black, Brittle, plant leaf impression replaced by pyrite
					237.38		0.18	
					237.56		0.36	
					237.92		0.40	Coal Brownish black, brittle, pyritic
					238		0.14	CARBSHALE ; Brownish black, flaeky, pyritic
					238.46		0.83	Silty claystone ; Gray, Medium hard, medium compact, Carb Parting, rooted, slight pyritic parting at places
	239.29				239			Carb shale / shelly Coal ; Brownish black, woody frag. pyritic
239.29					240		1.05	Silty claystone ; Gray, Medium compact, Medium hard rooted, pyritic, grading sandy towards base.
					1			Silty Sandstone ; Med. gray, medium compact, fine gr sst. Subangular & Subrounded grain. slightly clayey, few pyritic grains at places, grading clayey towards base
					2			Silty claystone ; light gray, Medium Compact, Medium compact, Sandy patches at places, mostly fine gr. and rounded grains
								CARBSHALE ; Brownish black, clayey, pyritic, rooted, interlaminated with fine sst. grains are subrounded
								Silty Clays ; light gray, Medium compact, medium hard, rooted replaced by pyrite

Form 3a

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
239.29					240.34		1.05	SILTSTONE · Light gray, medium hard to hard, contain parting of heavy minerals ? plants fragments replaced by pyrite, not calc, clayey towards base
					240.84		0.50	COAL
		3.06	2.21		241		0.30	UNDERCLAY : Gray, Medium compact, Carbonaceous, rooted, roots replaced by pyrite, Silty towards base
					241.50		0.36	SILTSTONE ; Light gray · Slightly clayey · rooted
	242.35				242		0.85	SILTSTONE / CARBSHALE ? Core Loss · 242.35
242.35					242.53		0.18	COAL Brownish black · friable · Sparsely pyritic 242.53
					242.60		0.07	SHALE PYRITIC, SLIGHTLY CARBONACEOUS 242.60
					242.70		0.10	COAL 242.70
					243		0.99	SHALE, Black to dark gray · Contains few patches of very fine grained pyrite, Small fragments of Carbonaceous matter distributed throughout the cmt. Slickensided near the top. One (about 2 cms) band of hard, heavy, light brown probably siderite material in the middle 243.69
		3.06	3.06		243.69		1.55	COAL - Brownish black to black, resinous, pyritic, brittle, semi compact, semi hard,
					4			
					5			245.24
	245.41				245.24		0.10	COAL, Brownish black · Few patches of fine grained pyrite · Few resin globules · Dirty 245.34
					245.34		0.07	CLAYSTONE, LIGHT BLUISH GREY TO DARK GRAY · SLICKENSIDED AND SLIGHTLY CARBY · MORE CARBY NEAR THE TOP
245.41							0.63	CLAYSTONE, LIGHT BLUISH GRAY, SLICKENSIDED · CONTAINS COALIFIED PLANT FRAGMENTS AT PLACES WITH PATCHES OF VERY FINE PYRITE GRAINS · RARE PATCHES OF VERY FINE TO FINE GRAINS OF PYRITE ROOTED · GRADES INTO CARBONACEOUS CLAYSTONE 246.04
					6		0.12	CARBONACEOUS CLAYSTONE LIGHT GRAY TO BLACK · ABUNDANT COALIFIED PLANT FRAGMENT · HIGHLY PYRITIC · SLICKENSIDED · RESINOUS 246.16
		2.51	1.67				0.92	SANDSTONE, LIGHT GRAY, FINE GRAINED, WELL SORTED, MOSTLY SUBROUNDED FEW SUBANGULAR · DOMINANTELY QUARTZ GRAINS · CARBONACEOUS SMALL FRAGMENTS AT PLACES, SOME PYRITIC · SANDSTONE CLAYEY
					7			247.08
	247.92				247.08		0.84	CORE LOSS PROBABLY SANDSTONE · 247.92
247.92							0.30	CLAYSTONE, LIGHT GRAY, CONTAINS CARBONACEOUS MATTER AND COALIFIED PLANT FRAGMENTS, TRACES OF FINE GRAINED PYRITE 248.22
					8		0.06	SANDSTONE, GRAY, COMPACT, FINE GRAINED · CONTAINS CARBONACEOUS FRAGMENTS · HEAVY ABOUT 5% WHITE NONCALCAREOUS GRAINS 248.28
		1.78	1.75				0.95	SANDSTONE, LIGHT GRAY · FINE GRAINED, MUDDY · SLIGHTLY CARBONACEOUS DOMINANTELY QUARTZ · FEW WHITE NONCALCAREOUS GRAINS SUBROUNDED TO SUBANGULAR WELL SORTED GRAINS · THIN COAL BANDS (UPTO 1 cms) AND MORE CARBY MATERIAL IN THE LOWER 10 cms 249.23
					9			
	249.70				249.38		0.15	SANDSTONE, WITH BANDS, LENSES OF COAL · FINE GRAINED, CARBONACEOUS 249.38
					249.49			CORE LOSS 249.41
					249.70		0.29	COAL, BROWNISH BLACK, FEW SAND LENSES, RESINOUS, PYRITIC 249.70
249.70							0.39	CORE LOSS
					0			250.09
		1.78	1.40		250.09		1.40	SANDSTONE Gray Fine grained muddy, fragments of coal, coaly matter, and carbonaceous matter, Dominantely quartz grains mostly fine few medium size grains, subrounded to subangular. Rare patches of fine grained pyrite. Carbonaceous decreases in the lower half. Glauconitic at places in its lower half. Few siderite nodules in the lower half. Grades into fine to very fine grained sandstone
	251.49				1			251.49
					2			

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1			251.49
251.49	1.23	1.10			2		1.10	SANDSTONE, Light gray. Fine to very fine grained. Muddy. Contains about 5% ferromagnesian grains. Carbonaceous matter sparse. Very rare patches of fine grained pyrite. Few hard, heavy nodules of light brown color, probably sederite, in the lower half. 252.59
	252.72				252.59	X	0.13	CORE LOSS 252.72
252.72	3.06	3.06			3		3.06	SILTSTONE, Light gray, Muddy. Rare patches of fine to very fine grained pyrite and fossil fragments. Few bands of hard heavy, light brown probably sederite material. Concentration of fossil fragments at few places in the middle part. Fine fragments of carbonaceous matter at few places.
					4			
					5			255.78
255.78	1.83	1.81			6		1.37	MUDSTONE, Light gray, Scattered fine fragments of carbonaceous matter at places. Few fossil fragments. Compact. 257.15
					7		0.19	SANDSTONE LIGHT GRAY MUDDY, FINE GRAINED, FULL OF FOSSIL FRAGMENTS CAN BE TERMED AS FOSSIL HASH. 257.34
							0.02	CORE LOSS 257.36
	257.61				257.34 257.36		0.25	CARBONACEOUS SHALE, Black. Contains carbonaceous fragments and coalified plant material. Few patches of very fine grained pyrite. Few fossil fragments. Resinous. Fossil abundant in the upper part 257.61
257.61	3.02	3.02			257.77		0.16	CLAYSTONE, LIGHT TO DARK GRAY CONTAINS CARBONACEOUS FRAGMENTS AND FEW COALIFIED PLANT FRAGMENTS. SLICKENSIDED, PYRITIC. 257.77
					8		1.00	COAL :- Brownish-black, semi hard, Compact, Shaly, Silty, pyritic, 258.77
					258.77		0.23	SHALE, Dark gray, with lenses and laminations of fine sand. Few patches of very fine grained pyrite 259
					9		0.14	CARBONACEOUS SHALE WITH SAND LAMINATIONS. RESINOUS. PYRITIC, 259.14
					259.14		0.25	COAL 259.39
					259.39 259.50		0.11	SHALE, Gray with lenses and laminations of fine sand. Few fragments of coalified plant matter. Few small fragments of carbonaceous matter. Few patches of very fine grained pyrite 259.50
					0		1.13	COAL :- Brownish black, soft, brittle, pyritic Resinous 260.63
	260.63				1			
					2			

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								260.63
							0.17	COAL Same as above. 260.80
260.63					260.80		0.06	CARBONACEOUS CLAYSTONE, Dark gray to black. Contains coal partings and carbonaceous matter. Few patches of very fine grained pyrite. Few resen globules. 260.86
					1		1.19	CLAYSTONE, Dark gray to light gray, Dark gray near the top due to more carbonaceous matter. Fragments of carbonaceous matter scattered throughout. Slickensided 262.05
	263.65	3.02			262.07		0.02	CARBONACEOUS CLAYSTONE 262.07
					262.50		0.43	COAL, Brownish black, Dirty, Coney, Few globules of resin. Few patches of very fine grained pyrite. Few thin lenses of claystone 262.50
					3		1.15	CLAYSTONE, Gray to light gray. Carbonaceous near the top with coalified plant fragments, carbonaceous matter and very fine grained pyrite. Grades into silty claystone in the lower half 263.65
263.65							0.60	SILTSTONE, Light gray, Compact. Small fragments of carbonaceous matter scattered. Few lenses of fine to medium grained quartz sand. Few hard, heavy, light brown siderite nodules 264.25
	266.67	3.02	0.60		264.25		2.42	CORE LOSS 266.67
266.67					7		0.85	SANDSTONE, Light gray, Friable, Fine to coarse grained, poorly sorted. Mostly subrounded quartz grains. At places contains small carbonaceous fragments. Few thin Coaly partings near the top. Muddy at places. 267.52
	269.69	3.02	0.85		267.52		2.17	CORE LOSS 269.69
269.69	270.09	0.40	0.26		269.95		0.26	MUDSTONE, Dark gray, becomes sandy in the lower half with medium grained subrounded quartz. About 2 cms thick hard, heavy, probably siderite band at bottom 269.95
					0	X	0.14	CORE LOSS 270.09
					1			
					2			

Form 3a

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								270.09
270.09	272.71 (2.62)	0.21			270.30		0.21	SANDSTONE, light gray Muddy, Fine to coarse grained subrounded, dominantely quartz grains poorly sorted One patch of fine grained pyrite Pyrite grains Larger than usual. Carbonaceous matter and few coaly lenses in the lower part 270.30
							2.41	CORE LOSS 272.71
272.71	274.83 (2.12)	0.15			272.86		0.15	SANDSTONE. light gray. Fine to coarse grained, poorly sorted, subrounded, dominantely quartz grains, Muddy. Few thin coaly partings and lenses of carbonaceous matter, at places pyritic. 272.86
							1.97	CORE LOSS 247.83
274.83	275.51 (0.68)	0.56			275.03		0.20	SANDSTONE LIGHT GRAY MUDDY CALCAREOUS. FINE TO COARSE SUBROUNDED QTZ GRAINS 275.03
					275.15		0.12	CORE LOSS 275.15
							0.36	SHALE WITH LAMINATIONS AND BANDS OF SANDSTONE, GRAY TO LIGHT GRAY SHALE WITH CARBONACEOUS MATTER, PYRITIC, SANDSTONE FINE TO COARSE GRAINED 275.51
275.51	278.61 (3.10)	1.72					0.10	SHALE with SAND lenses, Gray. Sand medium grained, subrounded SHALE PYRITIC. LOWER 4cms carby with coal partings. 275.61
							0.14	CLAYSTONE. Gray, with sand lenses and bands and lenses of light brown colour Sand Lenses contain fine to medium, subrounded quartz grains 275.75
							1.48	CLAYSTONE, Gray, Silty, with bands and lenses of light brown colour throughout the unit. Small fragments of carbonaceous matter scattered at few places Isolated fossil fragments at few places. 277.23
					277.23		1.38	CORE LOSS 278.61
278.61	281.70 (3.09)	3.09					0.08	CLAYSTONE, Gray, Same as above Concentration of fine fossil fragments at one place 278.69
							0.99	SANDSTONE. muddy, light gray, full of fossil fragments. At places concentration of well preserved forams (May be termed as fossil hash) Glauconitic. Sand fine to medium grained Carbonaceous near the bottom with coal fragments. 279.68
					279.68		0.32	COAL. Very dirty, Full of lenses felled with sand and fossil fragments. Well preserved forams in the upper part upper about 10 cm looks like mixture of sand fossil fragments forams coal partings 280
					280.34		0.34	COAL BROWNISH black, brittle, pyritic resinous 280.34
					280.44		0.10	COAL SHALY SPARSELY PYRITIC 280.44
							1.26	CARBONACEOUS SHALE, BLACK, More carbonaceous near the top, Gradually becomes less carbonaceous towards the bottom. Few coal partings more near top, rare in the lower half. Patches of very fine grained pyrite. Fragments of carbonaceous matter. Scattered throughout the unit 281.70

Form 3a

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	281.70				1			281.70
281.70		1.47			2		0.62	SHALE, Dark gray, Contains thin lenses of very fine sand, Small fragments of carbonaceous matter sparsely distributed Few. few mm thick partings of Coal in the middle. Pyritic 282.32
	284.23	2.53			3		0.85	SANDSTONE, Gray, muddy, friable with black thin laminations and lenses of muddy, carbonaceous sand. Sand fine grained subrounded quartz. Rare patches of very fine grained pyrite 283.17
					283.17 4		1.06	CORE LOSS 284.23
284.23		2.00			5		2.00	SANDSTONE. light gray, friable, Muddy, Dominantely fine, few medium and rare coarse grains. Poorly sorted. Dominantely quartz grains. Few patches of very fine grained pyrite. Few bands of hard heavy probably siderittic material. More muddy in the lower half with thin laminations of black carbonaceous matter Fine grained and well sorted in the lower half. 286.23
	287.32	3.09			286.23 6 7		1.09	CORE LOSS 287.32
287.32		1.85			8		0.63	CORE LOSS 287.95
	289.80	2.48			287.95 9		1.55	SANDSTONE, friable, Gray to light gray, dominantely fine few medium and rare coarse grains, subrounded. Dominantely quartz grains Muddy, At few places glauconitic Few thin laminations and lenses of carbonaceous matter 289.50
							0.30	SANDSTONE, SHALE, thinly laminated, shale gray Sandstone same as above. 289.80
289.80		2.70			0		1.40	SANDSTONE, with thin shale laminations, light gray to gray sand fine grained, subangular to subrounded dominantely quartz grains. 2-3 percent dark coloured grains. Muddy. Few bands of harder calcareous, lighter coloured, clean sandstone 291.20
	292.72	3.02			1 2			

Form 3a

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					291.20			291.20
							0.32	CORE LOSS 291.52
					291.52		1.30	SHALE WITH THIN SANDSTONE LAMINATIONS, GRAY TO LIGHT GRAY SAND VERY FINE TO FINE GRAINED. MOSTLY SUBANGULAR DOMINANTELY QUARTZ. 2-3% DARK GRAINS 292.82
292.82	295.84	3.02	2.10		3		0.36	CLAYSTONE, light gray, silty. Pyritic, with lenses of fine grained sand. 293.12
							0.15	SILTSTONE. GRAY, PYRITIC, LENSES OF FINE TO COARSE SAND. 293.27
					4		1.20	SILTSTONE, Gray. with lenses of fine, subangular to subrounded quartz sand. Scattered fine fragments of carbonaceous matter. Patches of very fine grained pyrite at few places. At places muddy. 294.47
					294.92		0.45	SANDSTONE, Gray, Fine grained, muddy. dominantely quartz grains. Few thin laminations and lenses of carby matter. Friable & more muddy in the lower half. 294.92
					5		0.92	CORE LOSS 295.84
295.84	298.86	3.02	2.85		6		1.15	SANDSTONE, interlaminated and interbedded with Shale light gray to gray. Sandstone, fine grained subrounded to subangular. Dominantely quartz grains, at places hard. Shale, hard, compact 296.99
					296.99		0.17	CORE LOSS 297.16
					297.16		1.70	CLAYSTONE, with thin laminations of sand. light gray to gray. Hard, compact slightly carby. Thin lenses of sand, fine to medium grained, dominantely quartz subangular to subrounded. Soft, friable. 298.86
298.86	301.85	2.99	2.59		9		0.65	CLAYSTONE Sandy as above 299.51
					0		0.14	SANDSTONE - CLAYSTONE INTERBEDDED, LIGHT GRAY TO GRAY DOMINATING SANDSTONE FINE TO MEDIUM GRAINED, SUBANGULAR TO SUBROUNDED QUARTZ GRAINS. 299.65
							0.80	SANDSTONE. light gray, fine to medium grained, subangular to subrounded, muddy, soft, friable. lenses of clay 300.45
					300.45		0.40	CORE LOSS 300.85
					300.85		0.50	SANDSTONE. Same as above 301.35
					1		0.50	CLAYSTONE. Gray. Lenses of sand, fine to medium grained subangular to subrounded quartz grains 301.85
					2			

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	301.85							301.85
301.85		1.10			2		0.95	CLAYSTONE. silty, sandy, hard, compact, Gray interlaminated with siltstone
	1.10							302.80
	302.95						0.15	SANDSTONE, light gray, to gray. Fine to medium grained subangular to subrounded 302.95
302.95					3		0.30	SANDY CLAYSTONE same as above LIGHT GRAY FINE TO MEDIUM GRAINED 303.25
	3.02	2.83			4		2.53	SANDSTONE, friable. lenses of clayey material light gray. soft to hard
					5			305.78
	305.97				305.78		0.19	CORE LOSS 305.97
305.97					6		2.42	SANDSTONE. Light gray, Fine grained, Clayey
	3.02	3.02			7			
					8			308.39
	308.99				9		0.60	SANDSTONE, Same as above Hard, slightly carby. Few plant fossil impressions 308.99
308.99							3.02	SANDSTONE. Light gray. Clayey. Fine to medium few coarse grains, subrounded. Dominantly quartz
	3.02	3.02			0			
	312.01				1			
					2			312.01

Form 3a

-356-

DRILL-HOLE NO UAS-6

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	312.01				1			312.01
312.01					2		0.71	CORE Loss Probably dirty coal
	3.06	2.35			312.72			312.72
					3		0.95	SANDY CLAYSTONE, Gray. Contains few nodules. Sand fine to medium grained Subangular to subrounded
								313.67
					4		1.40	SANDSTONE, Muddy, Gray to dark gray, Fine grained clay lenses and lamination.
	315.07				5			315.07
315.07							3.06	SANDSTONE, Gray to light gray. Fine to medium grained Subangular to subrounded. Muddy. Lenses and laminations of muddy material, carbonaceous at places
	3.06	3.06			6			
					7			
	318.13				8			318.13
318.13							2.20	SANDSTONE, light gray to gray. Fine to medium grained muddy. Hard at places. Traces of carbonaceous material. Thin lenses and laminations of Clay
	3.06	2.20			9			
					0			
					320.33			320.33
					1		0.86	CORE Loss
	321.19							321.19
					2			Hole Completed at 321.19 met. happy christmas

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0.0	2.00				0.00		2.00	Alluvial cover containing Sand, (quartz) lime stone and fossil fragments, silt and clay admixture
2.00	4.00				2		2.00	ALLUVIUM Same as above
4.00	6.00				4		2.00	ALLUVIUM Same as above
6.00	8.00				6		1.00	SHALE / CLAYSTONE light brown 5YR 5/6 with forams.
					7		1.00	
8.00	10.00				8		2.00	LIME-STONE Very pale orange 10YR 8/2 fossil fragments (forams).
					9			
					10			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10	12				10–12		2.00	LIME-STONE Very pale orange 10 YR 8/2 fossil fragments (forams).
12	14				12–14		2.00	WATER LOSS NO SAMP
14	16				14–16		2.00	WATER LOSS NO SAMPLE
16	18				16–18		2.00	WATER LOSS NO SAMPLE
18					18–18.40		0.40	
					18.40–20		1.60	SILT-STONE Sandy medium grey N/5 calcareous fragments from (Limestone overlying bed found mixed up).
	20							

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					20			
	22				22		2.00	SILT-STONE dark grey N/3 with black coal/carb shale and black coloured Fe-mg mineral grains, sandy, with quartz grains fine to medium size few
22					23		2.00	SILT-STONE : same as above
	24				24			
24					25		2.00	SAND-STONE medium grey N-4, silty, Very fine grained, slightly Pyritic, few coal frags/Fe-mg mineral grains.
	26				26			
26					27		2.00	SAND-STONE, Silty, medium dark grey N/3 Very fine grained, Pyritic, Fe-mg mineral grains few.
	28				28			
28					29		2.00	SAND-STONE as above
	30				30			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30	32				30 31		2·00	SILT-STONE dark grey N/3 (wet) sandy, clayey, slightly Pyritic, glauconitic, Fe-mg mineral grains: sand grains fine few medium sized grains.
32	34				32 33		2·00	SILT-STONE dark grey N/3 sandy, clayey slightly Pyritic, glauconitic, Fe-mg mineral grains >5 % Few probably coal? fragments.
34	36				34 35		2·00	MUDSTONE highly silty and sandy dark grey N/3, Pyritic, Fe-mg mineral grains.
36	38				36 37		2·00	MUDSTONE/SHALE silty as above. few foraams present?
38	40				38 39 40		2·00	SHALE SILTY/MUDSTONE dark grey N/3 (dry)/ greyish black N/2 (wet) highly Pyritic, black coloured Fe-mg mineral grans carbonaceous shale/coal fragments few, occasional.

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40	42				40			SHALE-SILTY / MUDSTONE dark grey N-3, slightly Pyritic, black and green Fe-mg mineral grains 5-10 %
					41		2.00	
					42			
42	44				43		2.00	SHALESILTY dark grey N/3, Pyritic, Slightly glauconitic, black and green Fe-mg mineral grains > 5 %
					44			
44	46				45		2.00	SHALE SILTY, pyritic, black Fe-mg mineral grains 3-5 %.
					46			
46	48				47		2.00	SHALE SILTY medium dark grey N/4 Pyritic as above.
					48			
48					48.50		0.50	SHALE SILTY as above
					49		1.50	LIMESTONE Very light grey. N10 (dry) yellowish grey 5Y 8/1 (wet). foraminiferal, ASSILINA.
	50				50			

SONHARI MEMBER.

LAKHRA FM.

DRILL-HOLE NO. UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
50					50			LIMESTONE (LAKHRA FORMATION). very light grey N/8 (dry). yellowish grey 5Y 8/1 (wet) foraminiferal Assilina.
					50.50		0.50	
					51		1.50	SHALE, sandy, medium grey N/5 highly foraminiferral (Assilina).
	52				52			
52							2.00	SHALE same as above.
					53			
	54				54			
54							2.00	SHALE silty, sandy, medium grey N-5 highly fossiliferous, fragmented forams (Assilina)
					55			
	56				56			
56							2.00	SHALE, silty, sandy, medium light grey N/6, highly fossiliferous, finely fragmented forams (Assilina)
					57			
	58				58			
58							2.00	SHALE grey N-3, silty, sandy, fossil fragments abundant (Assilina).
					59			
	60				60			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60	62				60			SHALE grey N/3 fossil fragments abundent.
					61		2.00	Lime stone chips abundent from overlying beds
					62			
62	64				62			SHALE same as above
					63		2.00	
					64			
64	66				64			SHALE Same as above
					65		2.00	
					66			
66	68				66			SHALE same as above
					67		2.00	
					68			
68	69				68			SHALE- Same as above
					69		1.00	
69	70				69			LIMESTONE.. Very light-gray N-8 ; dry T, yellowish gray 5Y 8/1 (Wel-) with Foraams Assilina (Lakhra formation)
					70		1.00	

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
70					70			LIMESTONE Same as above
					71		2.00	
	72				72			
72							1.00	LIME-STONE Same as above
					73		1.00	SHALE medium dark gray N/4. Fossiliferous (Assilina).
	74				74			
74							2.00	SHALE medium dark grey N/4, foraminiferal. (Assilina). Limestone chips found mixed up
					75			
	76				76			
76							2.00	SHALE Same as above.
					77			
	78				78			
78							2.00	SHALE Same as above
					79			
	80				80			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
80					80			SHALE same as above foraminiferal.
					81		2.00	
	82				82			
82								SHALE same as above foraminiferal
					83		2.00	
	84				84			
84								SHALE same as above foraminiferal
					85		2.00	
	86				86			
86								SHALE same as above foraminiferal
					87		2.00	
	88				88			
88								SHALE same as above foraminiferal.
					89		2.00	SANDY
	90				90			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
90					90			
	92				91		2.00	SHALE Sandy Same as above.
92					92			
	94				93		2.00	SHALE Sandy Same as above.
94					94			
	96				95		2.00	LIMESTONE Very light grey N18 (dry) to yellowish grey 5Y 8/1 highly foraminiferal. Assilina present.
96					96			
	98				97		2.00	LIMESTONE Same as above.
98					98			
	100				99		2.00	SHALE medium dark grey N/3 Sandy foraminiferal, Assilina present. Limestone chips from overlying beds found mixed up.
					100			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
100	102				100		2.00	SHALE Same as above
					101			
					102			
102	104				103		2.00	SHALE Same as above
					104			
104	106				105		2.00	SHALE Same as above
					106			
106	108				107		2.00	SHALE Same as above.
					108			
108	110				109		2.00	SHALE dark grey N-3 to greyish black N-2 with limestone fragments from overlying beds
					110			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
110					110			SHALE Same as above
					111		2.00	
	112				112			
112								SHALE dark grey N-3 slightly sandy sand fine grained, subrounded quartz grains.
					113		2.00	
	114				114			
114								SHALE Same as above silty, sandy
					115		2.00	
	116				116			
116								SHALE Same as above silty sandy
					117		2.00	
	118				118			
118								SHALE dark grey N-3. (dominantly Shale with some limestone fragments.
					119		2.00	
	120				120			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
120					120			
					121		2·00	SHALE Same as above.
	122				122			
122								
					123		2·00	SHALE Same as above.
	124				124			
124								
					125		2·00	CLAYSTONE/ SHALE Same as above.
	126				126			
126								
					127		2·00	CLAYSTONE/ SHALE Same as above.
	128				128			
128								
					129		2·00	CLAYSTONE/ SHALE Same as above.
	130				130			

Form 3b

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DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
130	132				130 – 131 – 132		2.00	CLAYSTONE/SHALE same as above
132	134				132 – 133 – 134		2.00	CLAYSTONE/SHALE same as above
134	136				134 – 135 – 136		1.00 1.00	CLAYSTONE/SHALE same as above. LIMESTONE light grey N/7 to yellowish grey 5Y 8/1 highly foraminiferal Assilina present.
136	138				136 – 137 – 138		2.00	LIMESTONE same as above
138	140				138 – 139 – 140		2.00	SHALE/ CLAYSTONE/MUDSTONE Sandy medium grey Limestone chips from overlying beds found mixed up.

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
140	142				140–142		2.00	SHALE/ MUDSTONE/CLAYSTONE sandy medium grey. fossiliferous with chips of Limestone from overlying beds.
142	144				142–144		2.00	SHALE/ MUDSTONE/CLAYSTONE same as above.
144	146				144–146		2.00	SHALE/ MUDSTONE/CLAYSTONE same as above
146	148				146–148		2.00	SHALE/ MUDSTONE/CLAYSTONE same as above
148	150				148–150		2.00	SHALE/ MUDSTONE/CLAYSTONE same as above.

Form 3b

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
150	152				150		2.00	SHALE/CLAYSTONE Sandy Same as above
152	154				152 153		2.00	SHALE/CLAY-STONE Sandy Same as above
154	156				154 155		2.00	SHALE/CLAYSTONE Same as above Sandy
156	158				156 157		2.00	SHALE/CLAYSTONE Sandy Same as above.
158	160				158 159		2.00	SHALE/CLAYSTONE Sandy Same as above.
					160			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
160					160			
					161		2.00	SHALE/CLAYSTONE Sandy Same as above
	162				162			
162								
					163		2.00	SHALE/CLAYSTONE Sandy Same as above
	164				164			
164								
					165		2.00	SHALE/CLAYSTONE Sandy Same as above
	166			↓	166			
166								
					167		2.00	SHALE / MUDSTONE Same as above
	168				168			
168								
					169		2.00	SHALE Same as above
	170				170			

Form 3b

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DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								LAKHRA FM
170					170			LIMESTONE medium light grey N-6, fossil fragments. SHALE fragments from overlying beds mixed up
	172				171		2.00	
172					172		1.00	LIMESTONE Same as above.
					173		1.00	SHALE dark grey N/3 sandy. Sand grains fine, subrounded, quartz. Limestone fragments (rounded ups).
	174				174			BARA FM
174					175		2.00	SHALE dark grey N/3 sandy. Sand grains same as above
	176				176			
176					177		2.00	SHALE Same as above.
	178				178			
178					179		2.00	SHALE Same as above.
	180				180			

Form 3b

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DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
180					180			
					181		2.00	✓ SHALE same as above
	182			✓	182			
182								CLAYSTONE dark grey to greenish grey
					183		2.00	
	184				184			
184								CLAYSTONE same as above
					185		2.00	
	186				186			
186								CLAYSTONE same as above (L.St. frags)?
					187		2.00	
	189				188			
188								SANDSTONE grey, highly clayey, silty. fine grained. Lime stone fragments present.
					189		2.00	
	190			✓	190			

Form 3b

DRILL-HOLE NO. UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
190					190			CLAYSTONE dark grey / greenish grey
					191		2·00	same as above.
	192				192			
192								CLAYSTONE dark grey to greenish grey
					193		2·00	same as above.
	194				194			
194								CLAYSTONE medium dark grey, sandy,
					195		2·00	same as above
	196				196			
196								SANDSTONE muddy medium dark grey,
					197		2·00	fine grained subrounded quartz grains.
	198				198			
198								SANDSTONE same as above
					199		2·00	
	200				200			

Form 3b

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
200	202				200		2.00	SHALE/CLAYSTONE, Sandy, medium dark grey compact.
202	204				202		2.00	SHALE Sandy. Same as above.
204	206				204		2.00	SHALE medium dark grey, Sandy. Sand (quartz) fine grained, few medium grained. Sub-rounded. occasional dark mineral grains
206	208				206		2.00	SHALE medium dark grey N-4. Sandy. Sand fine grained, Subrounded, quartz few grains with pyrite.
208	210				208		2.00	SHALE silty, Sandy/siltstone, medium-dark grey N/4, Sand fine grained quartz.
					210			

Form 3a

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DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
210	212				210 – 211 – 212		2.00	SHALE. Sandy - medium dark grey N-5, fine grained few medium size grains. Subrounded, dominantly quartz. with fragments of shale from overlying.
212	214				212 – 213 – 214		2.00	SHALE, sandy. medium grey N-5, muddy, fine grained few medium size sand grains, subrounded, dominantly quartz.
214	216				214 – 215 – 216		2.00	SHALE. Same as above.
216	218				216 – 217 – 218		2.00	SHALE. Same as above
218	220			Y	218 – 219 – 220		2.00	SANDSTONE MUDDY / SILT STONE LAMINAE

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
220					220			SANDSTONE same as above, with mixed up lithic fragments. (Lime stone, shale and silt-stone and occasional foram fragments from overlying rocks.
					221		2.00	
	222			✓	222			
222								SHALE. sandy, grey. Sand is fine to medium grained, subrounded quartz grains.
					223		2.00	
	224				224			
224								SANDSTONE. Medium grey N/5 fine grained few medium grained subrounded some subangular, poorly sorted quartz sand grains
					225		2.00	
	226			✓	226			
226								SHALE. Sandy. medium grey N/5 Sand is fine grained, some medium size grains of quartz.
					227		2.00	
	228							
228					228			SHALE. Same as above highly sandy.
					229		2.00	
	230				230			
					1			
					2			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
230					230			SHALE.
					231		2.00	Same as above, sandy clayey
	232				232			
232								SANDSTONE Medium grey N/5 fine grained, few medium grain, sub-rounded some subangular, poorly sorted quartz sand grains. Sandstone is more clayey.
					233		2.00	
	234				234			
234								SANDSTONE
					235		2.00	Same as above
	236				236			
236								SANDSTONE. Medium grey N/5, muddy. fine grained, sub-rounded dominantly quartz. lithic fragments and fossils from overlying formation/rocks.
					237		2.00	
	238				238			
238								SANDSTONE.
					239		2.00	Same as above
	240				240			
					1			
					2			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
240					240			SANDSTONE - muddy highly clayey fine to medium grained, same as above.
	242				241		2·00	
242					242			SANDSTONE.
					243		2·00	Same as above.
	244			✓	244			
244								MUDSTONE.
					245		2·00	Highly sandy / and silty, medium grey N/5 Sand is fine grained quartz.
	246				246			
246								MUDSTONE - / Shale. Sandy Same as above
					247		2·00	Sand fine to medium grained, subangular quartz grains.
	248			✓	248			
248								SHALE. Sandy. Same as above
					249		2·00	
	250				250			
					1			
					2			

DRILL-HOLE NO IIAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
250	252			✓	250		2.00	SHALE. Sandy. same as above
252	254			✓	252		2.00	SHALE / MUDSTONE sandy medium dark grey N/5 highly clayey.
254	256			✓	254		2.00	SILTSTONE / MUDSTONE Medium dark gray, N/5. Fine to medium grained, Subrounded, more clayey.
256	258			✓	256		2.00	SANDSTONE_ Medium light-gray N/7. Fine grained with few upto 5% dark (black) mineral grains Sand grains subrounded, well sorted.
258	260				258		2.00	SANDSTONE_ Medium light-gray fine grained few medium size quartz grains. few fragments of shale / siltstone.
					260			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
260	262				260		2.00	SANDSTONE- Medium light-gray N/7 with few shale/siltstone fragments. Fine grained-few medium grained. Subrounded well sorted, dark coloured fe-mg mineral grains few.
262	264				262		2.00	SANDSTONE- Same as above
264	266				264		2.00	SANDSTONE- Medium gray N/5, with shale fragments more than above interval. Sand fine to medium grained, subrounded moderately sorted quartz grains.
266	268				266		2.00	SANDSTONE. Same as above but less shale fragments than above
268	270				268		2.00	SANDSTONE Same as above
					270			

Form 3a

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
270	272			✓	270		2·00	SANDSTONE. Same as above, with some shale chips
272	274				272		2·00	SHALE/CLAYSTONE. Dark gray. N/4. Sandy. Sand medium grained. Subrounded quartz. Some rounded limestone fragments are found mixed, but circulating in mud.
274	276			✓	274		2·00	SHALE. Same as above
276	278				276		2·00	SANDSTONE - Medium gray N/5. Fine grained some medium grains subrounded clear quartz grains poorly sorted. Some rounded limestone fragments caught in circulating mud with forams.
278	280				278		2·00	SANDSTONE. Same as above.
					280			

Form 3a

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DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
280	282				280		2.00	SHALE. Medium dark gray N/4. Sandy Sand fine to medium grained, Subrounded To subangular poorly sorted.
282	284				282		2.00	SHALE. Same as above
284	286				284		2.00	SANDSTONE. Medium gray. N/5. Fine to medium grained, Subangular to subrounded
286	288				286		2.00	WATER LOSS. NO. SAMPLE
288	290				288		2.00	WATER LOSS NO. SAMPLE
					290			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
290	292				290		2.00	WATER LOSS NO. SAMPLE.
292	294				292		2.00	WATER LOSS NO SAMPLE
294	296				294		2.00	WATER LOSS NO SAMPLE
296	298				296		2.00	WATER LOSS NO. SAMPLE.
298	300				298		2.00	SHALE. Medium dark grey N14, sandy. Sand fine to medium grained, subrounded some subangular quartz grains poorly sorted.
					300			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
300	302				300		2.00	SANDSTONE. Medium light-gray N/6. Fine to medium grained, few coarse grained subangular quartz grains dominant.
302	304				2		2.00	SANDSTONE. Same as above.
304	306				4		2.00	SANDSTONE. Fine grained, few medium grained some subrounded clear quartz poorly sorted mixed up.
306	308				6		2.00	SANDSTONE. Same as above.
308	310				8		2.00	SANDSTONE. Same as above.
					310			

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
310	312				310		2.00	SHALE. Medium dark gray. N/5. Silty.
312	314				312		2.00	SHALE. Medium dark gray N/5 Highly sandy. Sand fine to medium grained.
314	316				314		2.00	SHALE. Same as above
316	318				316		2.00	SHALE. Highly Sandy. Medium dark gray N/5 Sand fine to medium grained, Subrounded poorly sorted clear quartz sand grains.
318	320				318		2.00	SHALE. Same as above.
					320			

Form 3a

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DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
320	322				320		2.00	SANDSTONE- Medium dark gray N/4 medium grained, few coarse grained subrounded to subangular poorly sorted quartz. Few fe. mf. grains
322	324				322		2.00	SANDSTONE- Same as above.
324	326				324		2.00	SANDSTONE- Same as above
326	328				326		2.00	SANDSTONE- Same as above
328	330				328		2.00	SANDSTONE- Same as above.
					330			

Form 3a

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
330	332			✓	330		2.00	SHALE. Sandy. med. gray N/5. Sand Fine to medium grained
332	334				332		2.00	MUDSTONE. Medium gray. N/5. Sandy glauconatic (rounded grains) sand fine to medium grained subangular poorly sorted quartzitic. Few coarse grained sand.
334	336				334		2.00	MUDSTONE. Same as above.
336	338				336		2.00	MUDSTONE. Same as above
338	340				338		2.00	MUDSTONE. Same as above
					340			

Form 3a

DRILL-HOLE NO VAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
340	342				340		2.00	SHALE. Sandy. Same as above
342	344				342		2.00	SANDSTONE. muddy. medium light-gray N/6 fine grained minor medium size grains.
344	346				344		2.00	SANDSTONE. Same as above.
346	348				346		2.00	SANDSTONE. Med. light-gray N/6 fine to med. grained subrounded well sorted quartz grains. few dark Fe: mg. mineral grains.
348	350				348		2.00	SANDSTONE. Same as above.
					350			

Form 3a

DRILL-HOLE NO UAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
350	352				350		2.00	SANDSTONE. Same as above
352	354				2 3		2.00	SANDSTONE. Same as above
354	356			✓	354 5		2.00	SILTSTONE. Medium gray N/5 sandy. Sand grains fine, subrounded quartz.
356	358				6 7		2.00	SILTSTONE Same as above
358	360				8 9		2.00	SILTSTONE Same as above
					360			
					2			

Form 3a

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DRILL-HOLE NO VAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
360	362				360		2.00	SANDSTONE. Medium light-gray N/6. With few shale/siltstone fragments. fine grained, few medium grained. Subrounded well sorted, dark coloured Fe: mg: mineral grains few.
362	364				2 3 4		2.00	SANDSTONE. Same as above.
364	366				4 5 6		2.00	SANDSTONE. Medium gray N/5. With shale fragments more than above. interval - sand fine to medium grained, Subrounded moderately sorted quartz grains.
366	368				6 7 8		2.00	SANDSTONE. Same as above, but less shale fragments than above
368	370				8 9 370		2.00	SANDSTONE. Same as above
					370 1 2			

Form 3a

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DRILL-HOLE NO VAS-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
370	372				370		2.00	SANDSTONE. with shale chips SILTSTONE
372	374				372		2.00	~~SHALE/CLAYSTONE~~. Dark gray N/3, sandy ~~sand medium grained~~. subrounded quartz. SILTSTONE
374	376				374		2.00	~~SHALE~~. Sandstone ~~Same as above~~
376	378				376		2.00	SANDSTONE
378	380				378		2.00	SANDSTONE.
					380			

DRILL-HOLE NO LIAS#8

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0.0	2.0				1 2		2.0	SAND/GRAVEL:- Greyish orange 10YR 7/4, loosely cemented, fine to med. gr. poorly sorted, sub-angular to sub-rounded, 65% quartz grains, 5% clay matrix, calc.
2.0	4.0				3 4		2.0	SAND/GRAVEL:- Same as above.
4.0	6.0	NON-CORING			5 6		2.0	LIMESTONE: Greyish orange 10YR 7/4, hard cuttings, forams.
6.0	8.0				7 8		2.0	LIMESTONE: Same as above.
8.0	10				9 10		2.0	LIMESTONE:- Greyish orange 10YR 7/4, hard, forams, mix with sand.
					2			

DRILL-HOLE NO WASH 8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10.0	12.0				11		2.0	LIMESTONE :- Greyish orange 10YR7/4, hard, forams, mix with sand cuttings.
12.0	14.0	NO CORINGS			13		2.0	MARL/SHALE/Lst :- Dark yellowish orange 10YR 6/6, interbedded, soft, calc. forams.
14.0	16.0				15		2.0	MARL/Lst :- Dark yellowish orange 10YR, 6/6, interbedded, soft, calc. forams.
16.0	18.0				17		2.0	Lst/Marl :- Same as above.
18.0	20.0				19		2.0	SHALE/MARL :- Dark yellowish orange 10YR 6/6, soft, calc.
					20			

DRILL-HOLE NO LIAS#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20.0	22.0	NON — CORING			21, 22		2.0	SHALE/MARL/Lst:- Dark yellowish orange 10YR6/6 soft, calc.
22.0	24.0				23, 24		2.0	SHALE/MARL/Lst:- Same as above.
24.0	26.0				25, 26		2.0	SHALE/Lst:- Dark yellowish brown 10YR4/2, soft, calc.
26.0	28.0				27		2.0	SHALE/Lst: Same as above.
28.0	30.0				28, 29, 30		2.0	Same as above.
					1, 2			

DRILL-HOLE NO UAS#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30.0	32.0	NON — CORING			31		2.0	SHALE/Lst. cuttings:- Dark yellowish brown 10YR 4/2 hard, calc. foams.
32.0	34.0				33		2.0	BLACK SHALE/CALC./Lst. cuttings:- Medium grey N5, semi-hard, foams, calc., sandy.
34.0	36.0				35		2.0	Same as above.
36.0	38.0				37		2.0	Same as above.
38.0	40.0				39		2.0	Same as above.
					1			
					2			

DRILL-HOLE NO LIAS#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40.0	42.0				41		2.0	SHALE/Lst. cuttings:- light grey N7, semi-hard, forams.
42.0	44.0				43		2.0	Same as above.
44.0	46.0				45		2.0	Same as above.
46.0	48.0				47		2.0	Same as above.
48.0	50.0				49		2.0	Black/Lst cuttings:- very light grey N8, soft, chalky, shell frag. forams, quartz gr. ostracoda.
					1			
					2			

Form 3a

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DRILL-HOLE NO LIAS#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
50.0	52.0				51		2.0	SHALE/SANDY Lst:- very light grey N8, soft, chalky, shell frag. 9/1398. 2% forams, assilina.
52.0	54.0				52 53		2.0	SANDY Lst:- Light grey N7, hard, forams, assilina.
54.0	56.0	NON-CORINGS			54 55		2.0	LIMESTONE:- Light grey N7, hard cuttings, forams, ?alveolina, shale interlayered.
56.0	58.0				56 57		2.0	SANDY Lst:- very light grey N7, soft, forams, ? alveolina.
58.0	60.0				58 59 60 1 2		2.0	SANDY Lst:- Same as above.

DRILL-HOLE NO LIAS#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60.0	62.0				61		2.0	LIMESTONE: Yellowish grey 5Y 7/2, foraminiferal, interclated shale.
62.0	64.0				63		2.0	LIMESTONE: Same as above.
64.0	66.0	NON-CORING			65		2.0	LIMESTONE: Yellowish grey 5Y 7/2, semi-hard, foams, shell frag.
66.0	68.0				67		2.0	SHALE/MARL/ rarely lit cuttings, very pale orange 10YR 8/2, calc. sandy, shell frag. shale partings.
68.0	70.0				69		2.0	Same as above.
					70			

DRILL-HOLE NO UAS#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
70.0	72.0	NON-CORING			71, 72		2.0	SHALE/MARL/ rarely lst cuttings.. very pale orange 10YR 8/2, calc. sandy, shell frag. shale partings.
72.0	74.0				73, 74		2.0	SANDY SHALE: very pale orange 10YR 8/2; med. to coarse gr. sub-angular, poorly sorted, water Colour changes, coaly partings & carb matter mixed with grey clay partings.
74.0	76.0				75, 76		2.0	Same as above, coaly traces present.
76.0	78.0				77, 78		2.0	Some as above, coaly traces present.
78.0	80.0				79, 80		2.0	SANDY CLAYS:- very pale orange 10YR 8/2, sand is med. to coarse gr. sub-rounded, poorly sorted, clay matrix; calc. coaly partings, shell frag. ferruginous (weathered)

DRILL-HOLE NO UAS#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
80.0	82.0	NON-CORING			81, 82		2.0	SAND/CLAY:- Pale yellowish orange 10YR8/6 & medium bluish grey 5B7/1, coarse gr. to v. coarse gr. sub-angular to sub-rounded, poorly sorted, intermixed with bluish grey clay.
82.0	84.0				83, 84		2.0	Same as above.
84.0	86.0				85, 86		2.0	SAND/SHALE: Bluish white 5B9/1, & dark greenish grey 5G4/1, med. gr. sub-angular, poorly sorted, 45% sand gr. with black minerals, dark greenish grey shale intermixed with sand, little trace of silt also observed.
86.0	88.0				87, 88		2.0	Same as above only sand trace increases & clay trace decreases.
88	90.0				89, 90		2.0	SANDY LST:- Bluish white 5B9/1, semi-hard, shell frag., chalky,
					1, 2			

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DRILL-HOLE NO UAS#8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
90.0	92.0				91 / 92		2.0	SANDY Lst :- Bluish white 5B9/1, semi-hard shell frag. chalky.
92.0	94.0	NG			93 / 94		2.0	SANDY Lst: very light grey N8, semi-hard, shell frag. forams, chalky.
94.0	96.0	CORI			95 / 96		2.0	SANDSTONE very light grey N8, friable fine gr. sub-rounded, well sorted, 95% quartz gr. shale cuttings, very slightly calc.
96.0	98.0	N — C			97 / 98		2.0	SANDSTONE - very light grey N8, fine to med. gr. sub-angular to sub-rounded, poorly sorted, very little % age of shale, almost clean sand, 85% qtz gr.
98.0	100.0	NO			99 / 100		2.0	SANDSTONE:- Same as above.
					1 / 2			

DRILL-HOLE NO: UAS-8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							0.20	CLAYEY MUD STONE: Varigated colours, light brown 5YR 5/6, Moderate red 5R4/6, Pale yellowish orange 10YR8/6, very light grey N8, with sand & silt, weathered, ferruginous.
	RUN 2.66	0.64	24%		100.64		0.44	
					101		2.02	SAND STONE: Olive grey 5Y4/1, loosely cemented, fine gr. sub-rounded, moderately sorted, qtz gr. 85% slightly clayey at places. 100.64
	102.66				102			Core loss at base rest as above. 102.66
102.66					103		1.85	CLAYSTONE: Olive black 5Y2/1, semi-hard, concoidal fracture, pyritic, carb. matter 1%, at places silty & sandy, waxy lustre. In the lower part a siderite nodule (0.10 m) thick, very light grey N8, very hard & compact. 104.51
	RUN 3.05	1.85	60.6%		104			
					104.51		1.20	Core loss at base claystone as above. 105.71
	105.71				105			
105.71					106		3.05	CLAY STONE: Olive black 5Y2/1, same as above with siderite nodules & percentage of carb. matter increases upto 3%, silty at places
	RUN 3.05	3.05	100%		107			
	108.76				108			108.76
108.76					109		1.01	Core loss from top claystone as above. 109.77
	RUN 2.99	1.98			109.77			
					110			
					1			
					2			

DRILL-HOLE NO LIAS 8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	111.75	1.98	66%		111		1.58	CLAYSTONE: Olive black 5Y 2/1, semi-hard, concoidal fracture, slickenside, carb. matter 2%, pyritic, at places slightly silty, animal burrows.
							0.40	CLASTIC LIMESTONE:- Light greenish grey 5GY 8/1, semi-hard, fossiliferous (bivalves) some black minerals 3% clay 5%.
111.75					112		0.33	
							0.36	CLAY STONE/SAND STONE:- Greenish black 5G 2/1 interlayered claystone & sandstone, claystone slickenside, concoidal fracture, sst loosely cemented fine gr. sub-angular, glauconite, animal burrows, wood pyritized.
							0.06	
							0.30	
							0.10	
					113		1.0	
					114		0.75	CLASTIC LIMESTONE:- Light greenish grey 5GY 8/1, semi-hard, coral reef, chalky, massive, 2% clays.
	114.65							
114.65					115		8.0	CLAY STONE: Greyish black N2, slickenside, concoidal fracture, intermixed with clastic lst.
								CLASTIC LIMESTONE: Yellowish grey 5Y 8/1, semi-hard, massive, 2% clays.
					116			CLAY STONE: Greyish black N2, semi-hard, slickenside, concoidal fracture, carbonaceous matter present, slightly silty.
								CLASTIC LIMESTONE:- Light bluish grey, 5B 7/1, semi-hard, rarely reef colony, at places clayey layers.
					117			
	117.75				117.65		0.10	
					118			FOSSIL HASH:- Light bluish grey 5B 7/1, semi-hard, full of forams, shell frag., assilina, calc. silty.
								FOSSIL HASH:- Light bluish grey 5B 7/1, semi-hard, full of forams, assilina, shell frag., calc., sandy & clayey matrix, silty.
					119			
					120			Core loss at base fossil hash as above.
								Fossil Hash: ON NEXT PAGE.

RUN 1.98
RUN 2.90
RUN 3.10
RUN 3.05

DRILL-HOLE NO WAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	120.80	3.05	100%				3.05	FOSSIL HASH: Light bluish grey, 5B 7/1, hard + compact, shell frag. reduced, foraams increases, clay size also increases, Glauconite, calc. massive
120.80	123.90	RUN 3.10 3.00	96.7%		121 122 123 123.80		3.0	FOSSIL HASH:- Light bluish grey 5B 7/1, hard + compact massive, Glauconite, full of foraams, calc. shell foagments. Core loss at base Fossil Hash same as above. FOSSIL HASH:- Light bluish grey 5B 7/1, hard & Compact, at places soft & clayey, full of foraams. Calc. shell frag.
						×	0.10	
123.90	127.0	RUN 3.10 3.10	100%		124 125 126		3.10	FOSSIL HASH:- Light bluish grey 5B 7/1, hard & compact, at places soft & clayey, rich of foraams, Assilina of large size, calc. Glauconitic, rest same as above.
127.0	130.0	RUN 3.00 3.0	100%		127 128 129 130		3.0	
					1 2			

DRILL-HOLE NO UAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
130.0	RUN 3.05 133.05	3.05	100%		131 132 133		3.05	FOSSIL HASH:- Same as above, forams are comparatively larger in size the the above.
133.05	RUN 1.10 134.15	1.10	100%		134		1.10	FOSSIL HASH:- Same as above, at places clayey & sand percentage increases, shell frag.
134.15	RUN 1.95 136.10	1.95	100%		135 136		1.95	FOSSIL HASH: Same as above.
136.10	RUN 3.05 139.15	3.05	100%		137 138 139		3.05	FOSSIL HASH:- Light bluish grey, 5B 7/1 & Dark greenish grey 5G 4/1, hard & compact at places soft & clayey, greenish grey colour probably due to Glauconite, highly forams & shell fragments, clay matrix, at places sandy, calc.
					140 1 2			

DRILL-HOLE NO UAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
139.15	RUN 3.00	3.0	100%		141		3.0	FOSSIL HASH:- Same as above.
	142.15				142			FOSSIL HASH:- Medium bluish grey 5B 5/1, same as above, Glauconitic.
142.15	RUN 2.08	2.08	100%				0.70	SILTY CLAY STONE:- Greenish black 5G 2/1, semi-hard, shell frag. forams, Glauconite, wood pyritized, wood debris.
					143		0.25	
								FOSSIL HASH: Greenish grey 5GY 6/1, silty & sandy, full of forams, Assilina, shell frag. Calc. Glauconite, lower part gradually changing into clay stone.
					144		1.13	
144.23	0.97	0.97	100%					CLAY STONE: Dark greenish grey 5G 4/1, semi-hard, shell frag. forams, Assilina, wood pyritized resin, massive.
	145.20				145		0.97	
145.20	RUN 3.05	3.05	100%					FOSSIL HASH:- Medium bluish grey 5B 5/1, semi-hard, full of forms, assilina, Glauconite, shell frag. silt & clay matrix.
					146			
					147			FOSSIL HASH:- Medium bluish grey 5B 5/1, hard, full of forams, assilina, Glauconite, lower part is bluish white 5B 9/1, gypseous, some black patches, sandy.
	148.25				148		3.05	
148.25	RUN 3.05	3.05	100%					SANDY LIMESTONE:- Light bluish grey 5B 7/1, hard, full of forams, assilina, Glauconite, pyritic, thin dark grey clayey layers, some black minerals.
					149		0.75	
					150		2.30	

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Form 3a

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DRILL-HOLE NO UAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	151.30	3.05	100%		151			
151.30	RUN 3.05 154.35	3.05	100%		152 153 154		3.05	SANDY LIMESTONE:- Light bluish grey 5B7/1, hard, full of forams, assilina (black colour) clay layers & clay % age increases, , pyritic, some black minerals.
154.35	RUN 3.05 157.40	3.05	100%		155 156 157		1.57	SANDY LIMESTONE: Same as above.
							1.48	FOSSIL HASH:- Greenish grey 5G6/1, hard, full of forams, assilina & shell frag. sandy & clayey, Glauconite, black minerals also present.
157.40	RUN 3.05	3.05	100%		158 159 160 1 2		3.05	FOSSIL HASH/SANDY LIMESTONE: very light grey N8, to light grey N7, semi-hard, full of forams, assilina, shell frag. pyritic, very rarely Glauconitic, sandy & clayey & at places clay layers.

DRILL-HOLE NO UAS-8

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	160.45							
160.45		RUN 2.20 2.10			160.55		0.10	Core loss from top Fossil hash/Sandy Lst. as above.
					161		0.60	FOSSIL HASH/SANDY LIMESTONE: Same as above.
					162		1.50	LIME STONE:- Light gray N7, hard, sandy, forams, ostrakoda, & rare shell frag.; at places clayey, Glauconite, some black minerals also present, pyritic, at places Dolomitic Lst.
	162.65							
162.65		RUN 2.50 0.60	24%					LIME STONE: Same as above.
					163		0.35	
							0.25	CLAYSTONE:- Olive black 5Y 2/1, semi-hard, concoidal fracture, abundant silty nodules, pyritic, & wood pyritized, at places thin silty layers, in the lower part shell frag. & bivalves, Gastropods.
					163.25			
					164		1.90	
	165.15				165			Core loss at base claystone same as above.
165.15							0.10	Core loss from top claystone as above.
		RUN 1.50 1.20	92%		165.25			Claystone:- Olive black 5Y 2/1, semi hard, concoidal fracture abundant silty nodules & thin silty [redacted] pyritic, pyritized wood rarely shell frogments, uncommon in lower part. Slicken side
	166.45				166		1.20	
166.45								CLAY STONE:- olive grey 5Y 4/1, same as above only broken shell frag. increases in the lower part upto 35%, silty nodules are rarely in this part.
		RUN 1.60 1.40	87%		167		1.40	
	168.05				167.85			Core loss at base claystone as above.
					168		0.20	CLAYSTONE: Same as above.
168.05								
		RUN 1.40 1.40	100%				0.45	SANDY LIMESTONE: Medium bluish grey 5B 5/1, semi-hard, highly fossiliferous, forams, ostrakoda, shell frag. Glauconite, wood pyritized, pyritic, some black minerals, at places clayey, & carb. matter.
	169.45				169		0.45	
169.45							0.10	
		RUN 2.50 0.10	4%		169.55			SANDY LIMESTONE: Same as above.
					170		2.40	Core loss at base Sandy Lst as above.
					1			
					2			

DRILL-HOLE NO WAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					171			Core loss
	171.95							SANDY LIMESTONE:- Same as above.
171.95		RUN 1.55	1.40		172		0.02	SILTY SANDSTONE:- Medium grey N5, hard at places semi-hard, v. fine gr. shell frag. forams, assilina, Textulella, pyritic, animal burrows, very slightly calc. towards base inter-layered sst & silty clays.
	173.50				173		1.33	
					173.35	X	0.15	Core loss at base silty sst same as above.
173.50		RUN 2.10	2.10	100%	174		2.10	SAND STONE:- Dark greenish grey 5GY 4/1, semi-hard v. fine gr. pyritic, animal burrows, very rare shell frag. siderite nodule 0.04 m, hard, slightly calc. silty at places.
	175.60				175			SAND STONE:- Same as above clay age increases at base.
175.60					176		0.70	FORAMINIFERAL SANDSTONE/FOSSIL HASH:- Dark greenish grey 5GY 4/1, semi-hard, full of forams, assilina, calc. clay matrix shell frag.
							0.29	
		RUN 3.00	3.0	100%	177		2.01	CLAY STONE:- Olive grey 5Y 4/1, semi-hard, rare shell frag. animal burrows, filled with sand, sand age increases at base.
	178.60				178			FOSSIL HASH:- Dark greenish grey 5GY 4/1, semi-hard, full of shell frag. sandy & clayey, calc., forams, assilina.
							0.13	SILT STONE:- Light bluish grey 5B 7/1, hard, highly fossiliferous, assilina, Glauconite, some black minerals.
		RUN 3.10	3.10		179		0.33	
							0.14	FOSSIL HASH:- Medium bluish grey 5B 5/1, semi-hard, full of fossils, shell frag-ments, bivalves & forams, sandy & clayey, calc.
					180			
					1			
					2			

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DRILL-HOLE NO UAS-8

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							1.80	SANDY LIMESTONE:- Light bluish grey 5B 7/1, fossiliferous forams, at places Glauconitic, clayey
					181		0.70	FOSSIL HASH:- Dark greenish grey 5GY 4/1, Semi-hard, full of shell frag. & forams, sandy & clayey, pyritic.
181.70	181.70							SAND STONE INTERLAYERED CLAYSTONE:- Greenish grey 5GY 6/1 & olive black 5Y 2/1, fine gr. sub-angular, poorly sorted, soft & friable, fine layers of sand interlayered with claystone, silty nodules & silty layers, shell frag. animal burrows, pyritic, slightly carb. fissile
		RUN 3.05 2.60	85%		182		1.30	
					183		1.30	
					184			FOSSIL HASH/FOSSILIFEROUS SAND STONE:- Dark greenish grey 5G 4/1, semi-hard, upper part is full of shell frag. & bivalves & forams, clayey, carb. resin, pyritic. In the lower part bags of shell frag. reduces & become fossiliferous sand stone, fine gr. sub-angular, poorly sorted, clayey.
	184.75				184.30		0.45	Core loss at base FOSSIL hash same as above.
184.75		RUN 2.00 2.0	100%		185		2.0	
	186.75				186			SAND STONE/CLAY STONE:- Dark greenish grey 5G 4/1, & olive black 5Y 2/1, sst. fine to med. gr. sub-angular to sub-rounded, poorly sorted, shell frag. clayey bands & layerings, & clay bags increases in the lower part, at places interlayering of sand/clays, silty nodules, slicken side, concoidal fracture, animal burrows.
186.75					187		1.05	
		RUN 3.05 3.05	100%		188		1.55	SAND STONE:- Dark greenish grey 5G 4/1, semi-hard, fine gr. sub-angular, poorly sorted, clayey & silty nodules animal burrows, shell frag of bivalves, interlayers of clay, carb pyritic, at places Glauconitic.
	189.80				189		0.45	SILT STONE/CLAYSTONE:- Dark greenish grey 5G 4/1, semi-hard, interlayered silt stone/fine gr. sst/claystone, animal burrows, fissile, slightly carb. in the lower part fine gr. sst. with shell frag.
189.80					190		LOSS	
					1			
					2			

DRILL-HOLE NO UAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	RUN 2.35	2.30			191		2.30	SAND STONE:- Greenish black 5GY 2/1, semi-hard, fine gr. sub-angular to sub-rounded, moderately sorted, in the upper part shell frag. animal burrows filled with silt or claystone, at places in the middle part - interlayering of clay with sand, silty nodules & layering, pyritic, carb. matter, fissile
	192.15				192.18		0.05	Core loss at base sst as above.
192.15	RUN 1.75	1.20					0.55	Core loss from top sst as above.
					192.70			SAND STONE:- Dark greenish grey 5GY 4/1, semi-hard, fine gr. sub-angular, moderately sorted, shell frag. & bivalves, at places clayey bands, carb. matter 1-2%, pyritic, Glauconite.
					193		0.38	
							0.14	SAND STONE:- Light grey N7, hard fine to med. gr. sub-angular, poorly sorted, thin carb. layers, shell frag. of bivalves, Glauconite, pyritic, resins, wood pyritized, clay partings.
							0.68	
193.90	RUN 3.05	2.85	93.4%		194		2.85	SAND STONE:- Dark greenish grey 5GY 4/1, semi-hard, fine gr. sub-angular, moderately sorted, shell frag. of bivalves, Glauconite, interlayered with thin layers of claystone, carb. matter, pyritic, some black minerals, resins.
					195			
					196			SAND STONE:- Olive grey 5Y 3/1, semi-hard, fine to med. gr. sub-angular, moderately sorted, shell frag. abundant in upper part, lower part have rarely shell frag., claystone is interlayered & at places clayey, pyritic, thin carb. layers, clay & age increases downward, also silty at places.
	196.95				196.75		0.20	
196.95	RUN 2.17	2.07			197		1.20	Core loss at base sst as above. SILT STONE:- Olive black 5Y 2/1, semi-hard, shell frag. animal burrows, interlayered with claystone, at places sandy, pyritic.
					198			SAND STONE / SILT STONE:- Olive grey 5Y 4/1, semi-hard, fine gr. sub-angular, poorly sorted, shell frag. forams, assilina, clayey, carb. matter, in the lower part hard Glauconitic sst. with large size bivalves, probably last bed of Lakhra.
	199.12			192.02	199		0.87	
							0.10	Core loss at base sst as above.
					200		2.68	SILTY CLAYS:- Olive grey 5Y 4/1, semi-hard, fossiliferous, bivalves, broken shells, (not identified) animal burrows, filled with fine gr. sand, Glauconitic pyritic, silty nodules & silty layers,
					1			
					2			

DRILL-HOLE NO WAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	RUN 2.68	2.68	100%		201			at places thin layers of fine sand interbedded with claystone. In the lower part shell frag. are less common.
	201.80							SILTY CLAYS:- Same as above.
201.80	RUN 3.05	3.05	100%		202		2.15	SAND STONE:- Light bluish grey 5B7/1, to light olive grey 5Y6/1, hard, fine to med. gr. sub-angular, poorly sorted, shell frag. bivalves, Glauconitic, animal burrows, pyritic, clayey, resins, calc., silty nodules.
	204.85				203			SAND STONE:- Greenish grey 5GY6/1 & olive grey 5Y4/1 semi-hard, fine gr. sub-rounded, moderately sorted, interlayered with clay & silt, animal burrows, Glauconite, coaly partings & carb. matter, pyritic, resins, silty nodules.
					204		0.90	Core loss at base sst same as above.
204.85	RUN 1.55	1.45	93.5%		205		1.45	CLAY STONE:- Medium grey N5/olive black 5Y2/1, upper part is med. grey, semi-hard, shell frag. of bivalves, pyritic, at places thin layers of fine gr. sand but gradually it changes colour olive black, semi-hard, no shell frag. high in carb. matter & coaly partings, pyritic, resins, slightly silty, lower part is highly carb. & gradually changes into coal.
	206.40				206			
					206.30		0.10	
206.40	RUN 2.00	2.0	100%		207		1.05	COAL:- Brownish black 5YR2/1, flaky, soft, alternate dull & vitreous lamination, brownish black streak, pyritic, resinous, carb. & clayey partings.
	208.40				207.45			
					207.71		0.26	
					208		0.69	SILTY CLAY STONE:- Olive black 5Y2/1, semi-hard, carb. matter, wood pyritized, resins, at places thin silty layers, carb. matter, coaly partings.
208.40	RUN 1.70	1.70	100%		209			SILTY CLAY STONE: Same as above.
					210			
					1			
					2			

DRILL-HOLE NO UAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
210.10	210.10							
	RUN 1.35	1.35	100%		211		0.60	Silty Claystone: Olive black 5Y2/1, Semi hard, Carboneceous matter, wood Pyritized, resins, at places thin layers of silt & silty nodules, Coaly partings.
	211.45						0.75	Sandstone: Olive black 5Y2/1, Semi hard to friable, fine to medium grain Subangular, poorly sorted, Silty & clayey, pyritic, Carboneceous matter & coaly partings, Silty nodules, Animal burrows, thin layers of clay interlayered with Sandstone.
211.45							0.37	Siltstone: Olive gray 5Y4/1, Semi hard, interlayered with Sand & clay, Carboneceous & wood pyritized, Sandy nodules, rarely Shell fragment thin layers of Carboneceous matter.
	RUN 2.75	2.75	100%		212		0.75	Sandstone: Light Olive gray 5Y6/1 Very fine to fine grain Subangular, poorly sorted, Silty & clay layers, silty nodules animal burrows, Pyritic, light green colour probably due to Glauconite, broken shell in upper part.
					213		1.63	
214.20	214.20				214			Silty Claystone: Olive gray 5Y4/1 Semi hard Silty nodules & layers, rarely Shell fragments Siderite nodules common, Carboneceous matter.
214.20	RUN 2.70	2.70	100%		215		2.70	SILTY CLAY STONE: Same as above.
	216.90				216			SILTY CLAY STONE: Same as above.
216.90	0.60	0.60	100%		217		0.60	
	217.50						0.40	Claystone: Medium bluish gray 5B5/1 Semi hard, rarely Shell fragment, wood pyritized, concoidal fracture, at places Silty, Silt percentage increases down ward. Shell fragment also increases.
217.50	RUN 3.05	3.05	100%		218		2.65	Sandstone: Medium bluish gray 5B5/1 to Greenish gray 5G6/1 hard to Semi hard, very fine to fine grain, Subangular to Subrounded poorly sorted, broken shells, Glauconitic at places clayey, In the lower part Carboneceous layers & coaly partings, interlayering with clay, pyritic.
					219			
					220			

DRILL-HOLE NO VAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Sandstone: Same as above
	220.55							
220.55	RUN 1.20	1.20	100%		221		1.20	Carboneceous claystone: Olive black 5Y2/1, Semi hard, highly Carboneceous, coaly parting & thin coaly layers at places slightly silty, pyritic & wood pyritized, resins
	221.75							
221.75								Claystone: olive black 5Y2/1 semi hard. carb slightly silty. pyritic.
	RUN 2.50	1.20	48%		222		0.70	Sandstone: Medium gray N5, very light gray N8, loose, very fine to fine grain, Sub rounded, moderately sorted, alternate layers of medium gray Sandstone & light gray Sandstone, clay & Carboneceous matter in layers, animal burrows.
							0.50	
					222.95			
							1.30	Core loss at base of Sandstone, probably same as above.
					224			
	224.25							Sandstone: Medium gray N5, very light gray N8, loose, very fine to fine grain, Sub rounded, moderately sorted, alternate layers of medium gray Sandstone & light gray Sand stone. Clay & Carboneceous matter in layers, animal burrows.
224.25	RUN 1.30	0.70	53%				0.70	
	225.55				224.95			Core loss at base of Sandstone, Same as above.
225.55							0.60	Sandstone: Grayish orange 10YR 7/4 & Olive black 5Y2/1 fine to medm grain, Sub angular to Sub rounded poorly sorted, loose, alternate layers of grayish orange / Olive black sand. The olive black S.St- is highly Carboneceous & thin layers of coaly partings, at places alternate beds of Carboneceous claystone & Sandstone.
	0.90	0.90	100%		226		0.90	
	226.45							
226.45								
	RUN 3.00	2.00	66%		227		2.0	SANDSTONE: Same as above.
					228			
					228.45			Core loss at base of sand stone Same as above
					229		1.0	Sandstone: Olive gray 5Y4/1 & Medium bluish gray 5B5/1 loose to Semi hard, fine grain Sub rounded moderately sorted, upper part have more Carboneceous claystone than in lower part at Places Glauconitic zone.
	229.45							
229.45	RUN 3.00	2.80	93%		230			

Form 3a

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DRILL-HOLE NO WAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					231			Animal burrows, Silty & Siderite nodules Carbonaceous matter & Clayey
					232			
	232.45				232.25	X	0.20	Core loss at base of Sandstone, Same as above.
232.45		RUN 1.60	1.60	100%	233		1.60	Siltstone / claystone: Olive gray 5Y4/1 Semi hard, interlayered Siltstone & claystone, Silty nodules & Siderite nodules are common. at places thin layers of fine grain sand rarely shell fragments, animal burrows filled with fine grain sand & silt. claystone semi hard, slightly Carbonaceous, Pyritic, Slickenside.
	234.05				234			
234.05		RUN 1.50	1.50	100%	235		1.50	Claystone: Olive gray 5Y4/1, Semi hard, Silty & Silty nodules at places Siderite nodules, Concordal fractures Slickenside Scattered shell fragments, Carbonmatter pyritic, animal burrows filled with Silt: lower part is silty & Glauconitic. Shell fragments also increase in lower part
	235.55							
235.55		RUN 1.63	1.50	92%	236		1.10	Claystone: Medium bluish gray 5B5/1 Semi hard & Compact- abundant- broken shells, at places sandy layers with Glauconite Siderite nodules.
							0.40	Sandstone: Medium bluish Gray 5B5/1 Semi hard, fine grain, Sub angular poorly sorted, abundant- broken shells, Glauconite, Some black minerals, Calc. Clayey.
	237.18			237.05	237	X	0.13	Core loss at base of Sandstone, Same as above
237.18		RUN 2.82	2.82	100%			0.50	Claystone: Olive gray 5Y4/1, Semi hard, Sandy & Silty, Silty nodules, animal burrows carbonaceous matter, pyritic.
					238		2.32	Sandstone: Olive black 5Y2/1 to Olive gray 5Y4/1 Soft & friable, fine to medium grain, Subrounded poorly sorted, black carbonaceous matter in layering along with clay bands. at places fine grain nodules of Sandstone (Calc) with full of Shell fragments.
					239			
					240			
					1			
					2			

DRILL-HOLE NO UAS-8

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
240.10							0.60	Sandstone: Same as above.
	RUN 1.55	1.55	100%		241		0.95	Sandstone: Greenish gray 5G6/1 soft, loose, fine grain, sub rounded poorly sorted, Glauconitic, slightly Carboneceous, pyritic, at place clayey & silty.
241.65								
	RUN 3.00	2.95	98%		242		0.60	Sandstone: Same as above
							0.65	Sandstone/claystone: Dark greenish gray 5G4/1 & olive black 5Y2/1, semi hard interbedded s.st. animal burrows filled with sand. fine to medium grain, poorly sorted, full of broken shells, the claystone is Carboneceous & coaly parting, Silty & Siderite nodules.
					243		0.31	Silty claystone: Olive gray 5Y4/1, thin alternate silt & claystone beds, Carb shale, Coaly parting
					243.21		0.79	Coal: Black 0, to brownish black 5YR2/1, brownish black streak, blocky clay partings, pyritic, resins, alternate vitrian & durrian bands,
					244		0.60	Silty claystone: Olive gray 5Y4/1, semi hard, upper part Carb shale with thin layers of coaly partings, wood pyritized, resins, silt percentage increases downward.
244.65					244.60			Core loss at base of silty claystone. Same as above.
	RUN 1.80	1.80	100%		245		1.80	Silty claystone: Medium light gray N6, semi hard, thin layers of fine grain Sand. pyritic & wood pyritized Silty & siderite nodules, Claystone is Carboneceous & coaly partings animal burrows.
					246			
246.45					246.48			Core loss from top of Silty claystone; Same as below
	RUN 1.05	1.02	97%				0.30	Silty Claystone: Same as above.
					247		0.72	Sandstone: Medium gray N5 semi hard. to soft & friable, fine to medium grain, subrounded, poorly sorted, Clayey & Silty layers, Siderite nodules, Carboneceous, Pyritic.
247.50								
	RUN 3.00	1.60	53%		248		1.60	Sandstone/claystone: Dark gray N3, semi hard, interbedded S.St with claystone; Sandstone, fine grain, sub rounded well sorted, 40% Sand. Claystone: Carboneceous & coaly partings & plant debris, Slightly Silty Slickenside, Sand percentage increases downward.
					249.10		1.40	Core loss at base of Interbedded Sandst & Claystone. probably Same as above.
					250			
					1			
					2			

Form 3a

DRILL-HOLE NO UAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	250.50							Core loss same as above
250.50		RUN 3.05 2.90	97%		251			Sandstone/claystone: Dark gray N3, semi hard, interbedded sandst-with claystone: Sandstone: fine grain sub rounded well sorted, some black minerals.
					252		2.90	Claystone: Carboneceous & coaly partings wood pyritized, slightly silty, sand percentage increases down ward, slickenside.
					253			
	253.55				253.40		0.15	Core loss at base of interbedded sandst & claystone same as above.
253.55					254		0.61	Sandst/claystone: medium dark gray N4, Sandst: fine grain, subangular to subrounded, well sorted, less than 40% silica sand claystone: Carboneceous, rarely shell fragments. coaly partings silty, animal burrows filled with silt.
							0.22	Carb. Shale: Olive black 5Y 2/1, wood pyritized, coaly partings, animal burrow
		RUN 5.10 3.10	100%	254.38	255.03 5		0.65	Coal: Black 'o', brownish black, blocky, pyritic, clay partings resins, alternate bands of vitrian & durian.
					256		1.62	Silty clays: medium dark grey N4, semi hard, interlayered very fine sand, wood pyritized, carboneceous animal burrows, fissile, resin, wood debris sandy patches, slickenside.
	256.65							
256.65		RUN 2.45 2.45	100%		257			Interlayered sandstone & claystone: Olive black 5Y 2/1 semi hard fine grain, subrounded, well sorted, clean sand Less than 35%, siderite nodules, claystone carboneceous, wood pyritized, animal burrows filled with sand/silt; resin. Carboneceous matter less 20%.
					258		2.45	
	259.10				259			
259.10		RUN 1.90 1.90	100%		260		1.42	Sandy claystone: Olive gray 5Y 4/1 semi hard wood pyritized, fissile, animal burrows filled with sand & silt, sandy
					1			
					2			

DRILL-HOLE NO UAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Sandy patches, Slickenside carboneceous matter 5%, silty at places
	261.0						0.48	Sandstone: Greenish gray 5G 6/1, Semi hard, fine grain, Sub rounded well sorted, Glauconitic, 40% silt, animal burrows, pyritic
261.0					261		0.44	Sandstone: Same as above
	RUN 1.65	1.65	100%		262		1.21	Silty clays: Medium dark gray N4, semi hard, animal burrows filled with sandy silt; sandy patches fine grain, Subangular, Glauconitic, Siderite nodules 0.03 m thick, hard. Carboneceous matter 1%. Pyritic.
262.65	262.65							
	RUN 3.00	2.80	93%		263		0.95	Claystone: Dark gray N3, semi hard pyritic, animal burrows horizontal as well as vertical to the bedding plane. (0.02 m long) Silty at places, lower part more silty & Sandy Slickenside, animal burrows filled with silt & pyritic.
					264		1.00	Interbedded claystone & sandstone: Greenish Gray 5G 4/6/1 semi hard claystone interlayered fine grain, Sub rounded glauconitic Sandstone. Carboneceous matter 1%.
								Claystone: Dark gray N3, Semi hard, fine coaly lamination, pyritized wood debris at places, Silty, fine sandy patches. Carboneceous
					265		0.63	Sandstone: Light gray N7, Semi hard soft at lower part, fine grain, moderately sorted, slightly clayey matrix, with black minerals, Sub rounded.
							0.22	
	265.45				265.45		0.20	Core loss at base of Sandstone Same as above.
265.65								
	RUN 3.00	1.20	40%		266		1.80	Core loss from top of Sandstone, Same as above
					267			
					267.45			
					268		1.20	Sandstone: Same as above
	268.65							
268.65								Core Loss from top of Sandstone Same as above.
					9		0.40	Sandy claystone: Light gray N7, Dark gray N3, Semi hard, pyritic silty very fine grain Sandstone Sub rounded moderately sorted. Wood Pyritised.
				269.05			0.23	
	RUN 1.55	1.15	74%				0.92	Claystone: Dark gray N3, Semi hard silty at places, thin layers of fine grain Sandstone, Shell fragments, more silty toward base, Carboneceous, Slickenside.
					270			
					2			

DRILL-HOLE NO HAS-8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	270.20							
270.20	RUN 1.50 271.70	1.50	100		71		1.50	SILTY CLAYSTONE. Dark gray N3. Semi hard. Fine laminations of sand inter layered throughout. Sand is fine grained light gray pyritized debris, animal burrows at places filled with pyrite. Lt lower part carbonaceous and coaly layers of 0.03.
271.70	RUN 0.50 272.20	0.50	100%		72		0.50	CLAYSTONE. Dark gray N3, Semi hard, silty sandy at places. Fine sandy laminations. Siderotic nodules embedded. Carbonaceous and Coaly flakes
272.20	RUN 0.80 273	0.65			272.85		0.65	CLAYSTONE, Dark gray N3. Semi hard. Slight silty, animal burrows pyritic Siderotic nodules at places max size .04.
						X	0.15	CORE LOSS
273	RUN 1.75 274.75	1.75	100%		74		1.75	SANDY CLAYSTONE, Medium dark gray. N4. Semi hard Fine laminations of sand throughout. Glauconitic, animal burrows Wood pyritized debris. Siderotic nodules Silty Slightly carb.
274.75	RUN 1.75 276.50	1.65			274.94		0.19	SILTY CLAYSTONE DARK GRAY N3 SEMI HARD WOOD PYRITIZED DEBRIS, ANIMAL BURROWS FILLED WITH SAND PYRITIC CARBONACEOUS AT LOWER PART.
						X	0.10	CORE LOSS PROBABLY CARBY SHALE / COAL
					275.04		0.30	COAL CRUSHED Brownish black. Streak brownish black. Clayey partings Pyritic. Resins. SAMPLE NO 3.
					275.34		0.26	HIGHLY CARBONACEOUS SHALE. DARK GRAY N3 LAMINATED SLIGHTLY SILTY
					275.60		0.12	CARBONACEOUS CLAYS DK GRAY N3 SEMI HARD PYRITIC SILTY THROUGHOUT
					275.72		0.78	SANDY CLAYSTONE, INTERBEDDED SST/CLAYSTONE. DARK GRAY N3 F grained sand laminated throughout. Carbonaceous, Pyritic, Animal burrows. Siderotic nodule common in the middle part it becomes S st of fine gr about 0.10.
276.50	276.85	0.35	100%				0.35	CLAYSTONE, Dark gray, N3, Semi hard, pyritic, animal burrows filled sand silt and pyrite. Slickensided. Silty.
276.85	RUN 0.95 277.80	0.95					0.95	CLAYSTONE. Dark gray N3. Semi hard. Pyritic. Animal burrows filled with pyrite. Slight silty throughout. Slickensided lower part more silty and contains siderotic nodules.
277.80	RUN 3.05	2.97		279			1.20	CLAYSTONE Olive black, 5Y 2/1, Silty, wood pyritized Animal burrows filled with Silt/Sand and pyrite about .02 in length. Carbonaceous, slickensided.
					80		1.75	COAL Brownish black 5YR 2/1 Soft thin layers, vetreous Fusain, pyrite, resin. SAMPLE No 4. Three bags

Form 3a

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DRILL-HOLE NO UAS-8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								280.75 Core loss: Probably in coal. 280.83
	280.85						0.02	Carbonaceous claystone: Olive black 5Y2/1 interlayered carb layers 280.85
280.85				280.98	1		0.13	Dirty coal: Highly carb clays, Olive black 5Y2/1 Slickenside, pyritic.
							0.12	Interbedded Sandst/Claystone: dark gray N3, Coaly partings, animal burrows.
							0.50	Sandstone: Medium dark gray N5, Semi hard, fine grain, Subrounded Moderately sorted, animal burrows, Carb matter, clayey.
							0.43	Sandstone: Medium light gray N6 hard, fine grain, Sub rounded wood debris, Carb, Coaly partings.
					2		0.12	
		RUN 3.00	1.30	43%	282.15			Sandstone: Medium dark gray N5, semi hard, fine grain Sub rounded, clayey.
					283		1.70	Core loss from base of sandstone same as above.
	283.85							
283.85					284		1.0	Core loss from Sandstone: Same as above
		RUN 1.75	0.75	42%	284.85			Sandstone: Medium dark gray N5 fine to medium grain 50% clean sand, highly carb & coaly parting. (Sandstone / coaly bands)
					5		0.28	Coal: Brownish black, brownish black streak, flaky, fine grain clean sand patches & layers interclated with coal.
					285.13		0.26	
					285.39		0.21	Sandstone: Dark gray N3, Soft, loose, fine gr. Carb. Clayey.
	285.60							
285.60		RUN 0.77	0.92	95%	286		0.92	Sandstone: Dark gray N3, hard, fine gr. Sub rounded, siderite nodules, clayey, lower part med. gray N5, shell fragments, more silty toward base, carb, Glauconitic.
	286.57				286.52		0.05	Core loss in sandstone same as above
286.57	286.90	0.31	94%		286.88		0.31	Silty Claystone: Dark gray N3, hard, silty, shell fragments, carb, siderite nodules No core loss at base of silty clay.
286.90					287			
		RUN 3.00	3.00	100%	288		3.00	Sandy claystone: Medium gray N5, semi hard, V. fine grain sandstone lamination, silty, shell fragments, siderite nodules, sand percentage increases downward A thin band of V. fine grain Calc. S.St.
	289.90				289			
289.90					290			
					1			
					2			

Form 3a

DRILL-HOLE NO UAS-8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							1.10	Silty claystone: medium gray N5, semi hard, sandy at places, shell fragments in the lower part, carb & coaly partings
	RUN 3.05	3.05	100%		291			
							0.65	Coal: Brownish black, brownish black streak, pockets & thin layers of fine grain sand, animal burrows filled with sand & shell fragments. pyritic.
					291.65			
							0.46	Silty claystone: Medium dark gray N4, semi hard, wood pyritized, carbonaceous, at places sandy, coaly flakes
					292		0.12	Carb shale: Greyish black N2, coaly lamination, pyritic, semi hard.
	292.95						0.72	Claystone: Dark gray N3, semi hard, wood pyritized carbonaceous & coaly lamination, animal burrows filled with fine sand / silt & pyrite, sandy
292.95					293			
	RUN 3.05	3.05	100%				0.56	Coal: Brownish black; brownish black streak, flaky pyritic, resins, at places clay partings
					293.51			
					294		2.49	Silty claystone: Dark gray N3, semi hard, carb and coaly. animal burrows, wood pyritized, slickenside, siderite nodules sandy toward base.
					295			
	296.0							
296.0					296			
							1.23	Interbedded Sandst / claySt: Medium gray N5 medium dark gray N4, semi hard, fine grain sub rounded, alternate layers of sandstone and clayst,
	RUN 3.00	2.45	82%		297			
					297.23		0.20	Coal: Greyish black N2. Flaky, pyritic, Resins, clay partings
					297.43		0.10	Carb Shale: Dark gray N3, semi hard, animal burrows, pyritic.
					298		0.92	Claystone: Dark gray N3 & Medium gray N5, slickenside animal burrows filled with fine sand & silt. wood pyritized, more silty toward base. Carb
					298.45			
							0.55	Core loss in claystone, Probably same as above.
	299.0							
299.0					299			
							1.09	Dirty Coal: Brownish black 5YR2/1, semi hard, clay bands, pyritic resin, animal burrows filled with fine sand / silt, plant debris, dull to vitreous coal bands.
					300			
					1			
					2			

Form 3a

DRILL-HOLE NO UAS#8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					300.09			
					300.38		0.29	CLAY STONE:- Medium grey N5, Dark grey N3, semi-hard upper + lower part contains 35% carb. matter, slightly silty, slightly silty, slicken side
					300.44			
	Run 3.05	2.50	82%		301		1.06	
					301.50			COAL:- Greyish black N2, semi-hard, pyritic, resins, wood pyritized debris, clayey partings.
	302.05				302		0.55	SAND STONE:- Olive black 5Y 2/1, semi-hard, fine gr interbedded clay matrix, carb. pyritic, animal
302.05							0.55	burrows filled with pyrite, wood pyritized, coaly partings at places
	Run 3.00	2.45	81.6%		302.60			Core loss at base sst as above.
					303		2.45	Core loss from top sst as above.
					304			SAND STONE:- light bluish grey 5B 7/1, fine gr. sub-rounded, well sorted, Glauconite, wood pyritized, semi-hard, v. thin carb. layers, animal burrows, filled with mud/silt, v/f gr. 85% in lower part interlayered sst + clay-stone, at places siderite nodules 0.03 to 0.05 m thick, hard.
	305.05				305			
305.05								
	Run 3.00	3.00	100%		306		3.0	SANDY CLAYSTONE:- Medium grey N5, semi-hard, v. fine gr. thin sandy layers at places + sandy
					307			patches, carb. matter 2-3%, animal burrows in abundance filled with sand/silt, rare shell frag. at places, resins, pyritic, wood pyritized, at places Glauconitic appearance.
	308.05				308		0.21	Core loss from top sandy claystone same as above.
308.05					308.26			CLAY STONE:- Dark grey N3, semi-hard, wood pyritized, fissile, animal burrows, carb. matter 2-3%
	Run 3.05	2.84	93.1%		309		1.03	Coaly partings, gradually changes into carb. shale, slickenside,
					309.41		0.12	CARB. SHALE:- Olive black 5Y 2/1, laminated, carb. matter > 80% resins, pyritic, v. slightly clayey, animal burrows filled with shell frag./fine sand.
					309.61		0.20	COAL:- Brownish black 5YR 2/1, soft, thin layers, vitreous, fusain, pyrite, animal burrows filled with shell frag./forams, resins
					309.79		0.18	
					310			SAND STONE:- light 5B 7/1, loose + friable, full of forams, Glauconitic, v. fine gr. clay matrix, slightly cal.
					1			
					2			

DRILL-HOLE NO UAS#8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	311.10						1.31	CALC. SANDSTONE:- Bluish white 5B9/1, hard, highly fossiliferous, full of forams, calc. Bryozoa, v. fine gr. Glauconite, ?Cassidina, some black minerals, more clayey towards base, less % age of forams, thin carb. layers, clay % age > 40%
311.10		RUN 3.05	2.95	96.7%	311		1.14	
					312		0.62	INTERBEDDED SANDSTONE & CARB. SHALE:- Light grey N7, & medium dark grey N4, sst. is very fine gr. sub-rounded, moderately sorted, qtz gr. > 95%, carb. shale semi-hard, thinly bedded, carb. matter > 65%, fissile plant debris, wood pyritized, resin, coaly flakes & partings, slightly clayey at base.
					313		1.02	SANDY CLAYSTONE/SHALE:- Dark grey N3, semi-hard, pyritic, plant debris, wood pyritized, animal burrows filled with fine gr. sand, sandy patches & v. thin fine gr. sand layers at places, carb. matter 3-4%, concoidal fracture, resins, shale laminations, coaly films, slickenside.
	314.15			314.05	313.98		0.17	
314.15				314.25			0.10	
		RUN 3.05	2.95	314.38			0.13	
			96.7%		315		0.92	INTERBEDDED SST./Shale/CLAYSTONE:- Light grey N7, & olive black 5Y2/1, sst. is fine gr. sub-rounded, moderately sorted, qtz gr. > 90%, shale/claystone, semi-hard, pyritic, animal burrows, carb. matter 10-15%, lower part is highly carb. > 90%, resins, plant debris, wood pyritized, laminated, fissile, coaly flakes, also sandy patches.
					316		1.41	
	317.20				317		0.29	COAL:- Brownish black 5YR 2/1, soft, thin layers, vitreous, pyritic, resins.
317.20								Core loss at base may be coal.
								Core loss from top may be coal.
		RUN 3.05	3.02	99%	318		3.02	COAL:- Brownish black 5YR 2/1, soft, pyritic, thin layers, resins
					319			SAND STONE:- Medium grey N5, medium dark grey N4, semi-hard, interbedded with claystone, fine gr. moderately sorted, pyritic, animal burrows, carb. silty at places coaly laminations.
					320			SANDY CLAY STONE:- Medium dark N4, semi-hard, silty, pyritic, carb. coaly lamination at places, animal burrows filled with pyritic, siderite nodules at places more sandy towards base.
					1			SAND STONE:- Medium dark grey N4, fine gr. semi-hard, interclated claystone, pyritic, wood debris, animal burrows filled with pyrite, carb.
					2			SAND STONE:- Light grey N7, Medium light grey N6, semi-hard, fine gr. sub-rounded, clay lamination or matrix, moderately sorted, at places hard, carb., animal burrows.

DRILL-HOLE NO UAS#8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	320.25				320.22			core loss at base sst as above.
320.25								Core loss from top sst. as above.
	RUN 3.05	0.89	29%		321		2.16	SAND STONE:- Medium grey N5, & olive grey 5Y 4/1, semi-hard, at places hard, clayey matrix, fine gr. moderately sorted, sub-rounded, carb. & coaly, animal burrows.
					322			CLAY STONE:- Medium dark grey N4, sticky, siderite nodules.
					322.41			Core loss from top sst.
					323		0.71	SAND STONE:- light olive grey 5Y 6/1, soft, loose, friable, fine to med. gr. rounded to sub-rounded, 95% qtz gr. clayey at base, contains carb. & coaly lamination.
	323.30						0.18	
323.30								CLAY STONE:- Medium dark grey N4, silty, pyritic, carb. & coaly, semi-hard, at places, sandy patches & thin layers of fine sand.
	RUN 2.45	0.85	34.6%		324		1.60	
					324.90			CLAY STONE:- Same as above.
					5		0.75	SAND STONE:- Dark grey N3, semi-hard, fine gr. sub-rounded, poorly sorted, highly carb. layers, coaly partings, slightly clayey, pyritic, at places animal burrows.
	325.75						0.10	
325.75								Core loss at base sst as above.
		0.60	100%		326		0.60	
	326.35							
326.35								Core loss from top sst. as above
	RUN 3.05	1.46	47.8%		327		1.46	
					327.81			
					8		1.59	
					329			
	329.40							
329.40								
	RUN 0.95	0.26	27%		0		0.69	
					330.09			
					1			
					2			

DRILL-HOLE NO UAS#8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					330.09			CORE LOSS
	330.35						0.26	SAND STONE:- Dark grey N3, soft & friable, med. gr. poorly sorted, sub-angular to sub-rounded, highly carb., slightly clayey, pyritic, siderite nodules.
330.35					331		1.0	
	RUN 2.05	1.0	48%		331.35			SAND STONE: Greenish grey 5G 6/1, semi-hard, fine gr. sub-rounded, well sorted, Glauconitic, animal burrows filled with sand & shell frag. silty & siderite nodules, pyritic, at places slightly clayey & carb.
	332.40				332		1.05	
332.40								Core loss at base sst. same as above.
							0.60	SAND STONE:- Same as above.
					333			Core loss at base sst. same as above.
								Core loss from top sst same as above.
	RUN 3.00	0.60	20%		334		2.40	SAND STONE: Medium grey N5, fine gr., soft, friable, sub-rounded, clayey matrix.
								SANDY CLAYSTONE:- Dark grey N3, semi-hard, fine sand lamination inter layered, carb. wood pyritized debris.
	335.40				335			
335.40					335.80		0.40	Core loss from top sandy claystone as above.
	RUN 1.00	0.60	60%				0.14	
	336.40				336		0.46	SAND STONE:- with clay interclation. Dark grey N3, semi-hard, carb. at places & coaly partings, more sandy at top & more silty & clayey at bottom, animal burrows filled with pyrite,
336.40					336.50		0.10	
							0.75	SANDY CLAYSTONE:- Dark grey N3, semi-hard, pyritic, fine lamination of sst. interclation, animal burrows, carb. coaly partings at places, slickenside
	RUN 2.05	1.95	95%		337			
							1.20	SANDY CLAYSTONE:- Dark grey N3, semi-hard, interclation of fine sand, animal burrows filled with pyrite, carb. & coaly partings, more sandy towards base.
	338.45				338			
338.45							0.60	SAND STONE:- Medium grey N5, & olive grey 5Y 4/1, semi-hard, fine gr. moderately sorted, clayey matrix, coaly & carb. pyritic.
	RUN 3.00	0.85	28%		339		0.25	
					339.30			Core loss at base same as above.
					340			
					1			
					2			

Form 3a

-429-

DRILL-HOLE NO UAS#8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	341.45				341		2.15	CORE LOSS
341.45	344.45 RUN 3.00	1.75	58.3%		342 343		1.75	SAND STONE:- Dark grey N3, & Greenish grey 5G6/1, semi-hard, fine to med. gr. sub-angular, poorly sorted, shell frag. Glauconitic zones, animal burrows filled with sand & shell frag. carb. layers, siderite nodules, lower part is soft & friable, med. gr. carb. layers & coaly partings, core grinde, pyritic, resins.
					343.20 344		1.25	Core loss at base sst. same as above.
344.45	347.45 RUN 3.00	1.42	47.3%	34603	345 6 347		1.58 0.42 0.95	Core loss from top sst. same as above. SAND STONE:- Dark greenish grey 5G 4/1, soft, friable, fine gr. sub-angular, poorly sorted, siderite nodules. CLAY STONE:- Olive black 5Y 2/1, carb. sandy & silty, animal burrows, pyritic, sand age increases downward, interclation of sst & claystone. SAND STONE:- Olive black 5Y 2/1 & dark greenish grey 5G 4/1 semi-hard, fine gr. sub-angular to sub-rounded, moderately sorted, carb. & clay layers at places, shell frag. animal burrows, silty & siderite nodules, Glauconite abundant in lower part, upper part is more clayey, pyritic.
					348 349 350 1 2			

TD-347.45

Form 3a

-430-

DRILL-HOLE NO LIAS#9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
00.00	2.0				1		2.0	ALLUVIUM / RECENT DEPOSITS. SILTY CLAY:- yellowish gray 5Y7/2.
2.0	4.0	NON — CORING			2 3 4		2.0	SILTY CLAY: Same as above
4.0	6.0	NON — CORING			5 6		2.0	SILTY CLAY: Same as above
6.0	8.0	NON — CORING			7 8		2.0	SILTY CLAY: Same as above.
8.0	10.0	NON — CORING			9 10 1 2		2.0	SILTY CLAY: Same as above.

ALLUVIUM COVER

Form 3a

-431-

DRILL-HOLE NO UAS#9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					11		2.00	SILTY CLAY: Some as above.
		CORING			12			
					13		2.00	SILTY CLAY: Some as above.
		NON			14			
					15		2.00	SILTY CLAY Some as above.
		CORING			16			
					17		2.00	SAND Greyish Orange 10 YR 7/4 Calcareous fine to med grained, micaceous. Calcareous
		NON			18			
					19		2.00	SAND Some as above.
					20			
					1			
					2			

ALLUVIUM

Form 3a

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DRILL-HOLE NO LIAS#9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20.0	22.0	NON — CORING			21 22		2.00	SAND: Greyish orange 10YR 7/4, med to coarse grained 75% 8% grains, loose, soft friable. calcareous
22.0	24.0	NON — CORING			23 24		2.00	SAND: Greyish Orange. 10YR 7/4, very pale orange 10YR 8/2, med to coarse grained, sub. rounded to sub-angular calcareous
24.0	26.0	NON — CORING			25 26		2.00	SAND: Some as above.
26.0	28.0	NON — CORING			7 28		2.00	SAND: Some as above.
28.0	30.0	NON — CORING			9 30		2.00	SAND: Some as above.
					1 2			

ALLUVIUM

DRILL-HOLE NO UAS#9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30.0	32.0				31		2.0	SAND :- Some as above.
32.0	34.0			CORING — NON —	33		2.0	SAND :- Some as above.
34.0	36.0				35		2.0	MARL : very Pale Orange 10 YR 8/2,
36.0	38.0			CORING — NON —	37		2.0	SHALE/MARL/LIMESTONE :- Greyish Orange 10 YR 7/4,
38.0	40.0				39		2.0	S. LIMESTONE :- Greyish Orange 10 YR 7/4, bluish white 5 B 9/2, hard cuttings, navely forams.

ALLUVIUM

METING LIMESTONE

DRILL-HOLE NO UAS#9

METING LIMESTONE

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40.0	42.0	NON-CORING			41		2.0	SHALE:- Dark gray N3, moderate reddish brown 10 R 4/6 + dark yellowish orange 10 YR 6/6 soft, laminated. calcareous.
42.0	44.0	NON-CORING			43		2.0	SHALE:- Same as above.
44.0	46.0	NON-CORING			45		2.0	SHALE:- Same as above.
46.0	48.0	NON-CORING			47		2.0	SHALE/LIMESTONE:- Dark gray N3, moderate reddish brown 10 R 4/6, dark yellowish orange 10 YR 6/6 + bluish white 5 B 9/2, soft, laminated. with hard 1st cuttings. forams. alveolina.
48.0	50.0	NON-CORING			49		2.0	SHALE:- Same as above
					50			
					2			

DRILL-HOLE NO LIAS#9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
50.0					51		2.0	SHALE:- Same as above
52.0	52.0	NON CORING			52			SHALE:- Same as above
	54.0				53		2.0	
54.0					54			SHALE:- Same as above
	56.0				55		2.0	
56.0					56			SHALE:- Same as above
	58.0	NON CORING			57		2.0	
58.0					58			SHALE:- Dark gray N3, moderate yellowish orange 10 YR 6/6 & bluish white 5B 9/1, calc, laminated, silty, sandy.
	60.0				59		2.0	
					60			
					1			
					2			

MEETING LINE 1 ENTRANCE

Form 3a

-436-

DRILL-HOLE NO UAS#9

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60.0	62.0	NON CORING			61		2.0	CLAY STONE: dark gray N3.
62.0	64.0	NON CORING			63		2.0	CLAYSTONE: dark gray N3
64.0	66.0	NON CORING			65		2.0	CLAYSTONE: same as above. dark gray N3 50% sand, 50% shale.
66.0	68.0	NON CORING			67		2.0	SANDSTONE/SAND light gray N7, fine to med grained sub-rounded to sub-angular, moderately sorted soft, loose, friable, 99% qtz grains, 1% other black minerals, slight calc.
68.0	70.0	NON CORING			69		2.0	SANDSTONE/SAND very light gray N8, same as above.

SONHARI BEDS

Form 3a

-437-

DRILL-HOLE NO LIAS#9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
70.0	72.0	NON — CORING			71		2.0	SAND Light gray N7, med to coarse grained sub-rounded to sub-angular, moderately sorted.
72.0	74.0	NON — CORING			73		2.0	SAND:- Same as above.
74.0	76.0	NON — CORING			75		2.0	SAND:- Same as above, mostly fine to med grained.
76.0	78.0	NON — CORING			77		2.0	SAND:- Same as above
78.0	80.0	NON — CORING			79		2.0	SAND:- Same as above.

SONHARI 1E05

DRILL-HOLE NO UAS#9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
80.0	82.0	NON — CORING			81		2.0	SAND: Same as above.
82.0	84.0	NON — CORING			83		2.0	SAND: Same as above.
84.0	86.0	NON — CORING			85		2.0	SAND: Same as above.
86.0	86.95	NON — CORING			86		0.95	SAND: Same as above.
86.95	89.43	RUN 2.48 — CORING	2.48	100%	87 8 89		2.48	SILTY CLAYSTONE: Olive black 5Y 2/1, semi hard, silty and sideritic nodules, at places sandy, more silty toward base carbonaceous matter. pyritic & wood pyritized, animal burrows filled with fine grain sand.
89.43					90 1 2			SILTY CLAYSTONE

NON-CORING

CORING

DRILL-HOLE NO UAS-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	RUN 2.75	2.60	98%		92		1.27	SILTY CLAYSTONE: Same as above
							1.33	SILTSTONE: Greenish black 5G 2/1, semi hard, at places graded into fine grain sandstone. silty & siderite nodules, clayey, carb, fossiliferous (Echinoids) pyritic & wood pyritized
						X	0.15	92.03 92.18 CORE LOSS: from base of siltstone. probably same as above
92.18	RUN 3.05	3.05	100%		93		0.52	SILTSTONE: Same as above
							2.30	SILTYCLAYST: Olive gray 5Y 4/1, semi hard, thin layers of silt- and fine grain sand, abundant shell fragments, animal burrows, silty nodules, rarely carboneceous matter pyritic.
	95.23				94			
					95		0.23	SILTSTONE: Greenish gray 5G 6/1, semi hard, at places sandy. wood debris, slightly carboneceous, clayey, shell fragments
95.23	RUN 3.05	3.05	100%				0.25	SILTSTONE: Bluish white 5B 9/1 to light greenish gray 5G Y8/1, hard & compact, full of shell fragments, Calcareous, clayey. few black minerals
					96			
							2.65	Limestone: : Bluish white 5B 9/1 to very light gray N7. very hard, compact, Calcareous shell fragments, forams, cryptocrystalline pyritic. Sandy
					97			
	98.28				98		0.15	Calc. Silty Claystone: Medium bluish gray 5B 5/1 Semi hard, full of forams, few shell fragments at places sandy, pyritic. Calcareous
98.28	RUN 3.05	2.65	87%		99		2.65	Calc. Silty clays/ FOSSIL HASH: Medium bluish gray 5B 5/1 Semi hard, very highly fossiliferous (forams) at places hard sandy layers. pyritic and wood
					100			
					2			

SONTHARI BEDS — LAKHRA FORMATION

Form 3a

-440-

DRILL-HOLE NO UAS-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								debris. at places silt percent increases calcareous. 100.92
	101.33				101		0.40	Core loss: from base of silty clays / fossil lash 101.33
101.33	RUN 2.00	~~2.00~~ 1.90	95%		102		1.90	FORAMINIFERAL LIMESTONE/SANDY LIMESTONE medium bluish gray 5B5/1 hard, highly fossiliferous (forams) at places clayey matrix. 103.23
	103.33				103		0.10	Core loss: from base of Sandy limestone / fossil lash. 103.33
103.33	RUN 1.35	1.35	100%		104		1.05	FORAMINIFERAL LIMESTONE:- Light gray N7 to light bluish gray 5B7/1 hard & compact, fossiliferous (forams) slightly dolomitized, at places clayey matrix.
	104.68						0.30	CALC SILTY CLAYS:- Greenish black 5G2/1, soft, highly fossiliferous (forams) few shell fragments pyrite & wood pyritized, lower part full of forams.
104.68	RUN 2.35	2.35	100%		105		0.60	CALC. SILTY CLAYS: Same as above
	107.03				106		1.32	FORAMINIFERAL LIMESTONE: Light gray N7 to medium gray N5 hard & compact, highly fossiliferous (forams) at places clayey matrix, pyritic
107.03	RUN 3.05	3.05	100%		107		0.43	SILTY CLAYSTONE:- Olive black 5Y2/1 Semi hard, silty and siderite nodules, at places thin layers of silt: pyrite & pyritized, animal burrows, shell fragments.
					108		1.65	SILTY CLAYSTONE: Some as above.
					109		1.40	CLAYSTONE:- Olive black 5Y2/1, Semi hard, at places silty layers & siderite nodules, Scattered shell fragments, few animal burrows
					110			
					1			
					2			

LAKHRA FORMATION

DRILL-HOLE NO. LAS-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
110.08	110.08						—	
	RUN 2.21	2.21	100%		111		0.92	CALC. SILTY CLAYS:- Medium bluish gray 5B5/1, semi hard, fossiliferous (forams + shell fragments) at places slightly sandy.
							0.90	CLAYSTONE:- Olive black 5Y2/1, semi hard, animal burrows pyritic, silty & siderite nodules, layers of shell fragments and gradually increases downward.
	112.29				112		0.49	Foraminiferal limestone / Sandy limestone:- Greenish black 5G2/1 Semi hard, full of forams & shell fragments of much larger size, clayey matrix.
112.29	RUN 1.54	1.50	98%		113		1.50	Foraminiferal limestone / Sandy limestone:- Greenish Black 5G2/1, hard, full of forams & shell fragments in lower part nodules of siderite, animal burrow, clayey
	113.83						0.04	Core loss:- from base of foraminiferal limestone. 113.79 113.83
113.83	RUN 3.00	3.00	100%		114		1.70	SILTY CLAYSTONE:- Olive black 5Y2/1, semi hard, silty & siderite nodules, animal burrows, pyritic scattered shell fragments, Shell fragments increases downward.
					115			FORAMINIFERAL LIMESTONE:- Dark greenish gray 5G4/1 hard, full of forams & shell fragments, clayey matrix, at places sandy.
							0.47	
	116.83				116		0.83	SANDSTONE:- Dark gray N3, semi hard, very fine to fine grain, poorly sorted, subangular, animal burrows filled with silty clay + shell & forams.
116.83	RUN 3.05	2.80	91%		117		2.80	SANDSTONE:- Olive black 5Y2/1 to Dark gray N3, semi hard very fine to fine grain, poorly sorted, subangular, animal burrows, thin layers of silt, at places alternate layers of sand and clay. pyritic.
					118			
					119			
	119.88							119.63
							0.25	Core loss:- from base of sandstone, same as above.
119.88					120			SILTY CLAY STONE: 119.88

LAKHRA FORMATION

DRILL-HOLE NO UAS-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	RUN 3.05	3.05	100%		121		3.05	SILTY CLAYSTONE:- Olive black 5Y2/1, semi hard, animal burrow filled with pyrite, siderite nodules embedded Through out. more pyritic in the middle part.
	122.93				122			
122.93					3			CLAYSTONE:- Olive black 5Y2/1, semi hard siderite nodule, slight pyritic + shell fragments
	3.05	3.05	100%		124		1.75	SILTSTONE:- Greenish black 5GY2/1 semi hard, full of forams, shell fragments lower part is clayey
					125		0.74	CLAYSTONE:- Olive black 5Y2/1, semi hard, siderite nodules at places. animal burrows
	125.98						0.56	
125.98					126			CLAYSTONE:- Olive black 5Y2/1, semi hard shell fragments at places, slight pyritic slickenside, animal burrows, siderite nodules
	RUN 3.05	2.85	93%		127		1.05	127.03
							0.20	Core loss at base, same as above.
					128		1.80	127.23 FORAMINIFERAL LIMESTONE:- Medium bluish gray 5B5/1 + light bluish gray 5B7/1, hard + compact, middle part is crystalline, forams + shell fragments Throughout
	129.03				129			129.03
129.03							0.04	Core loss at top, same as below. 129.07
	RUN 3.00	2.96	99%		130		2.96	SANDY/SILTY CLAYSTONE:- Olive 5Y2/1, semi hard pyritic, animal burrows. shell fragments, siderite nodule. fine sandy lamination at places, middle part become sandy + abundance in shell fragments.
					2			

LAKHRA FORMATION

Form 3a

DRILL-HOLE NO UA5-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					131			SANDY / SILTY CLAYSTONE
	132.03				132			
132.03								SANDY / SILTY CLAYSTONE:
								same as above.
	RUN 3.05	3.05	100%		133		3.05	
					134			
	135.08				135			
135.08								CLAYSTONE / SILTY CLAYSTONE
								olive black 5Y2/1, semi hard, siderite nodules at places, pyritic crystals are common. shell fragments lower part become silty. animal burrows.
	RUN 3.05	3.05	100%		136		2.35	
					137			LIMESTONE: FORAMINIFERAL
								Light gray N7, hard, foraminiferal, shell fragm
	138.13				138		0.70	
138.13								LIMESTONE FORAMINIFERAL
							0.70	same as above.
	RUN 3.05	2.90	95%		139			SANDY CLAYSTONE:
								olive black 5Y2/1, semi hard, upper part is argillaceous, full of forams + shell fragments silty, fine lamination of sand, upper part is calcareous, pyrite, animal burrows, siderite nodule.
					140			
					2			

LAKHRA FORMATION

BARA FORMATION

DRILL-HOLE NO UAS-9

BARRA FORMATION

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					141			SANDY CLAYSTONE:-
	141.18						0.15	Core loss at base, same as above. 141.03 141.18.
141.18								SANDY CLAYSTONE:- Olive black 5Y 2/1, semi hard, fine sandy lamination, pyritic bands: animal burrows, siderite nodule.
	Run 3.05	2.40	79%		142		1.82	
								143.00 Core loss at base, same as above. — looks grinded.
					143		0.65	143.65 SANDY CLAYSTONE:- Br gray 5Y 4/1, olive black 5Y 2/1 sandy lamination, pyritic, animal burrows.
	144.23				144		0.58	
144.23								144.23 Core loss from top, same as below. SSC
	Run 3.05	2.48	81%				0.57	144.80 SANDSTONE:- Greenish black 5GY 2/1, fine gr. clayey matrix, animal burrows, filled with pyrite
					145		0.50	
								CLAYSTONE:- Olive black 5Y 2/1, semi hard at places sandy & silty, animal burrows, filled with pyrite.
					146		1.98	
	147.28				147			
147.28								CLAYSTONE:- Same as above.
	Run 3.05	3.05	100%		148		0.84	
								SILTY CLAYSTONE / SILTSTONE:- Olive black 5Y 2/1, semi hard full of forams & shell fragments, at places sandy & silty, lower part grade into siltstone Greenish black 5GY 2/1 lower part contains slight pyrite & carb.
					149		2.21	
					150			
					1			
					2			

DRILL-HOLE NO UAS-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	150.33							150.33
150.33								Core loss:- from top of Sandstone/Sandy claystone, same as below 151.17
	RUN 3.00	2.16	72%		151		0.84	SANDSTONE/SANDY CLAYSTONE:- Medium dark gray N4, fine to medium grained, Subrounded, poorly sorted with claystone bands,
							0.26	
					152		1.05	CLAYSTONE:- Olive black 5Y2/1, thin layers of fine grain Sand. animal burrows, pyritic, shell fragments at places,
					153		0.85	SANDSTONE:- Medium dark gray N4, fine grained, sub-rounded poorly sorted, clayey matrix, Semi hard, Silty at places, pyritic, rarely shell fragments, burrows.
	153.33							
153.33								SANDSTONE/CLAYSTONE INTERBEDDED:- Medium dark gray N4, & Greenish black 5GY2/1, Semi hard Sandstone: fine grained, Subangular to Subrounded poorly sorted, pyritic, Shell fragments & forams. Claystone:- Semi hard, animal burrows, Sideritic & Silty nodules. Silty at places, Shell fragments & forams, and increases in lower parts, pyritic.
	RUN 3.05	3.05	100%		154			
					155		3.05	
					156			
	156.38							156.38
156.38								Core loss:- from top of Sandstone, probably same as below 157.48
	RUN 3.00	1.90	63%		157		1.10	SANDSTONE:- Dark greenish gray 5G4/1 fine to medium grained with clay matrix. Shell fragments abundant in upper part.
					158		1.0	
								SANDY CLAYSTONE:- Olive black 5Y2/1 Semi hard, pyritic, animal burrows, Sandy Shell fragments, carbonaceous & coaly partings.
	159.38				159		0.90	
159.38								SANDSTONE/CLAYSTONE INTERBEDDED
					160			

BARA FORMATION

Form 3a

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DRILL-HOLE NO UMS-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								159.38
	RUN 3.05	1.0	33%		161		2.05	Core loss: from top of sandstone/claystone probably same as below
	162.43							161.43
								SANDSTONE/CLAYSTONE INTERBEDDED:- Medium dark gray N4, semi hard, thin layers of fine grained sand, subangular, poorly sorted pyritic. animal burrows, siderite nodules Claystone: silty, thin lamination of shale pyritic, animal burrow.
					162		1.0	
162.43	RUN 3.05	3.05	100%		163			SANDY/SILTY CLAYSTONE:- Olive black 5Y2/1, semi hard, compact, fine to medium grain, Subrounded, thin layers of sand. Carbonaceous al-places animal burrows filled with Sand. pyritic.
					164		3.05	
	165.48				165			
165.48	RUN 3.00	1.89	63%		166		1.89	SANDY CLAYSTONE:- Olive black 5Y2/1, semi hard interlayered fine grained sand, animal burrows filled with Sand, siderite bands and nodules, Carbonaceous, pyritic lower part more sandy. very light gray N8 Sandstone band. fine grain, hard. 167.37
					167			
					168		1.11	Core loss:- from base of Sandy claystone same as above.
								168.48
168.48	RUN 3.05	2.24	73%		169		1.30	CLAYSTONE:- Olive black 5Y2/1 Sandy, silty, Carbonaceous and coaly partings, pyritic lower part more Sandy.
					170			SANDSTONE:- Medium dark gray N4, fine to medium

BARA FORMATION

DRILL-HOLE NO(1)AS-9

BARA FORMATION

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								grained, clayey matrix, pyritic.
					171		0.39	CLAYSTONE:- Olive black 5Y2/1, silty, carbonaceous, silty and siderilic nodules, pyritic. 170.72
	171.53						0.81	Core loss:- from base of claystone, probably same as above 171 53
171.53					172			Core loss: from top of sandstone, probably same as below. 173.98
	RUN 3.05	0.60	20%		173		2.45	SANDSTONE:- Medium dark gray N4, fine to medium grain, subangular to subrounded moderately sorted, soft, lower part contain siderilic nodules. at places clayey
					4		0.12	CLAYSTONE:- Olive black 5Y2/1, semi hard, Sandy and silty, Carbonaceous and Coaly laminations, pyritic & woodpyritized
	174.58						0.48	174.58
174.58					175		0.45	Core loss:- from top of Sandst/claySt, probably same as below 175.03
	RUN 1.75	1.30	74%				1.30	INTERBEDDED SANDSTONE / CLAYSTONE:- Medium dark gray N4, semi hard, fine grain, Subangular poorly sorted, alternate layers of Sandstone & claySt, Carbonaceous, pyritic, more Sandy & Siderilic bands.
	176.33				176			176.33
176.33							0.10	Core loss:- from top of sandy claystone, probably same as below. 176.43
	1.30	1.20	92%		177		1.20	SANDY CLAYSTONE:- Medium dark gray N4, semi hard, thin layers of medium to coarse grained S.St. Carbonaceous at places, Animal burrows filled with Sand, Siderilic nodules.
	177.63							177.63
177.63	53	0.30	57%				0.23	Core loss:- from top of Sandy claySt, probably same as below 177.86
	178.16				178		0.30	SANDY CLAYSTONE:- Same as above.
178.16								178.16
	RUN 2.52	1.92	76%				0.60	Core loss:- from top of Sandstone/claystone. 178.76
					179		1.00	SANDSTONE/CLAYSTONE INTERLAYERED:- Dark greenish gray 5GY4/1 to olive black 5Y2/1, Semi hard, fine grain, Subrounded to Sub angular Silty layers, Carbonaceous, Siderite nodules, pyriti
					180		0.92	SILTY CLAYSTONE:- Olive black 5Y2/1, Semi hard
					2			

DRILL-HOLE NO UAS-9

BARA FORMATION

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	180.68							Siderilic nodules, animal burrows, Slickenside at places Silty and Sandy, Carbonaceous and coaly partings, pyritic, wood pyritized.
180.68					181		0.81	Core loss:- from top of Sandstone, probably Same as below 180.68 181.49
							0.31	SANDSTONE/CLAYSTONE INTERLAYERED:- Medium light gray N6 to olive black 5Y2/1, Semi hard, fine grain Subrounded, poorly sorted, Siderilic nodules Carbonaceous, pyritic, at places Silty.
	RUN 3.05	2.24	73%		182		1.80	SILTY CLAYSTONE:- Olive black 5Y2/1, Semi hard, thin layers of fine grain Sand & Silt, Carbonaceous Slickenside, pyritic & wood pyritized.
	183.73				183		0.13	SANDSTONE:- Medium light gray N6 to olive black 5Y2/1 Semi hard, fine to medium grain, Subrounded to subangular, poorly sorted, pyritic, Siderilic nodules, Carbonaceous, clayey.
183.73					184		0.60	SANDSTONE:- Olive gray 5Y4/1 to dark greenish gray 5GY4/1, Semi hard, fine to medium grain, subangular, poorly sorted, Siderilic bands & nodules, Carbonaceous layering & coaly parting clayey.
	RUN 2.30	1.30	57%				0.70	SANDSTONE:- Greenish black 5G 2/1 Soft- fine to medium grain Subangular to Subrounded, poorly sorted, Siderilic nodules & layers, clayey, animal burrows, Carbonaceous. 185.03
	186.08				185		1.00	Core loss:- from base of Sandstone, probably Same as above. 186.03
186.03					186		1.40	SANDSTONE:- Greenish gray 5GY4/1 to Greenish black 5G2/1 Semi hard, fine to medium grain, Sub rounded poorly sorted, Siderilic nodules & bands, Shell fragments, clayey, animal burrows Carbonaceous.
	RUN 3.02	2.72	90%		187		1.32	SILTY CLAYSTONE:- Olive gray 5Y4/1 to medium dark gray N4. Semi hard, Slickenside at places thin layers of fine grain sandy & Silty. Siderilic nodules & layers, animal burrows. Carbonaceous and coaly partings. 188.75
	189.05				188		0.30	Core loss:- from base of Silty claystone; Same as above. 189.05
189.05					189		0.90	SILTY CLAYSTONE:- Olive gray 5Y4/1 to dark gray N3, Semi hard, Slickenside, Sandy & Silty, Siderilic nodules, animal burrow, Carbonaceous & coaly partings increases downward.
					190			few shell fragments
								DIRTY COAL:
					2			

Form 3a

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DRILL-HOLE NO UAS-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	RUN 2.95	2.95	100%		191		0.30	Dirty coal / highly carb claystone:- Brownish black 5YR2/1, blocky pyritic, resins, animal burrows, Sandy patches & thin layers, wood pyritized
							0.90	CLAYSTONE:- Olive black 5Y2/1, hard & compact, Carbonaceous & coaly partings, pyritic & wood pyritized slickensided, animal burrows, Sandy & silty
	192.00						0.85	INTERBEDDED SANDSTONE / CLAYSTONE:- Olive black 5Y2/1 Semi hard. Sandstone: fine to medium grain, poorly sorted, Subangular, loosely cemented. Carbonaceous claystone: Slickensided, Carbonaceous, Sideritic
192.00	RUN 2.15	1.50	70%		192		0.65	192.00 Core loss from top of Sandst / claystone, Same as below
								192.65
					193		1.00	INTERBEDDED SANDSTONE / CLAYSTONE:- Same as above
	194.15							SANDSTONE:- Very light gray N8, to brownish gray 5YR 4/1 hard & compact, fine to medium grain, Sub-rounded, moderately sorted, Carbonaceous & Coaly partings, Calcareous, Sideritic bands.
					194		0.50	194.15
194.15	RUN 1.65	NIL			195		1.65	Core loss:- Probably sandstone, Same as above.
	195.80							195.80
195.80	RUN 1.80	0.95	53%		196		0.85	Core loss:- Probably Sandstone, Same as above.
	197.60							196.65
					197		0.95	SANDSTONE/SAND:- Light gray N7 to very light gray N8. fine to medium grained, loose, soft, 95% qtz, Clean Sand, Subrounded to Subangular, well sorted.
								197.60
197.60	RUN 1.25	0.80	64%		198		0.45	Core loss: from top of Sandstone, Same as below 198.05
	198.85						0.80	SANDSTONE: Same as above.
								198.85
198.85	RUN 1.90	0.90	47%		199		1.0	Core loss: from top of Sandstone, Same as above.
								199.85
					200			
					1			
					2			

DRILL-HOLE NO UA5#9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							0.90	SANDSTONE · Some as above.
	200.75							200.75
200.75	RUN 1.15	0.60	52%		201		0.55	Core loss from top sst/sand
	201.90							201.30
							0.60	SANDSTONE / SAND as above
201.90								201.90
					202		0.34	Core loss from top sst: as below:
								202.24
	RUN 3.00	2.66	89%				0.80	SANDSTONE · Dark gray N3, semi hard, fine grained sub-rounded, moderately sorted, alternate layers of carb. material + very thin clay layers, cooly partings, pyritic wood pyritized
					203		0.30	SILTY CLAYSTONE:- Olive gray 5Y 4/1 to olive black 5Y 2/1 sandy at places, animal burrows, pyritic, wood pyritized, plant debris, carb % age increase downward, siderite nodule
							0.26	DIRTY COAL:- Olive black 5Y 2/1, Br black 5YR 2/1, semi hard blocky, pyritic, wood debris, clayey partings, sandy + silty.
					204		1.30	SILTY CLAYSTONE:- Olive gray 5Y 4/1 to olive black 5Y 2/1 sandy at places, animal burrows, pyritic
	204.90							
204.90	RUN 3.05	3.05	100%		205			SILTY CLAYSTONE some as above, only thin layers of dirty coal present at places.
					206		3.05	
					207			
	207.95							207.95
207.95					208			
	RUN 3.05	0.90	30%		209		2.15	Core loss: from top of interbedded sandstone/claystone probably same as below.
					210			
					1			
					2			

DRILL-HOLE NO UAS-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								210.10
	211.00				211		0.90	INTERBEDDED SANDSTONE/CLAYSTONE:- Light gray N7 to olive black, alternate layers of sand/clayst. Sandstone: fine grain, Subangular to Subrounded, moderately Sorted, loose, Silty & Sideritic nodules clayst: Carbonaceous & Coaly partings, Silty, Sideritic bands, animal burrows
211.00								211.00
	RUN 3.05	1.85	61%				1.20	Core loss: from top of Sandstone, probably Same as below.
					212			212.20
							1.85	SANDSTONE: Dark gray N3, Soft & loose to Semi hard, fine to medium grain, Sub angular to Subrounded moderately Sorted. Carbonaceous, clay layers Sideritic nodules & bands animal burrows 20% clayey. Silty.
	214.05				213			
214.05					214			
	RUN 1.65	0.37	22%				0.37	SANDSTONE:- Same as above
								214.42
					215		1.28	Core loss:- from base of Sandstone, Same as above.
	215.70							215.70
215.70								SILTY CLAYSTONE:- Olive black 5Y2/1, Semi hard, thin layers of Sand and Silt, Carbonaceous matter, pyritic and wood pyritized, at places coaly partings.
	RUN 1.40	1.40	100%		216		1.00	
	217.10							SANDSTONE:- Medium dark gray N4, Semi hard to Soft & loose fine to medium grain, Subrounded to Subangular poorly Sorted, Sidentic nodules & bands, Coaly partings & Carbonaceous layers.
217.10					217		0.40	
	RUN 3.05	1.91	63%				1.30	SILTY CLAYSTONE:- Olive black 5Y2/1, Semi hard, thin layers of fine grain Sand & Silt, Carbonaceous matter, pyritic & wood pyritized, at places animal burrows, wood debris.
					218		0.61	
								SANDSTONE:- Medium dark gray N4, Semi hard to Soft and loose, fine grain, Subangular, poorly Sorted, Carbonaceous, Sideritic nodules.
					219		1.14	219.01
								Core loss:- from base of Sandstone, probably Same as above.
					220			
					1			
					2			

DRILL-HOLE NO UAS-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	220.15							220.15
220.15	RUN 1.40	0.40			221		1.0	Core loss from top of Sandstone, probably Same as below 221.15
	221.55						0.40	SANDSONE (SILICA SAND):- Pale yellowish brown 10YR6/2 to Very light gray N8, Soft & loose, fine to medium grain, Sub rounded, moderately Sorted 95% Qtz grain clean Sand. Ferruginous staining 221.55
221.55	RUN 1.65	0.45	27%		222		1.20	Core Loss:- from top of Sandstone, probably Same as above 222.75
	223.20				223		0.45	SANDSTONE (SILICA SAND) Same as above. 223.20
223.20	RUN 1.80	0.40	22%		224		1.40	Core loss:- from top of Silica Sand, probably Same as below 224.60
	225.10				225		0.40	SANDSTONE (SILICA SAND) Same as above
225.0	RUN 1.25	0.40	32%				0.40	225.40
	226.25				226		0.85	Core loss: from base of Silica Sand, Same as above. 226.25
226.25	RUN 1.50	NIL	00%		227		1.50	Core loss: Probably Silica Sand
	227.75							227.75
227.75	RUN 1.50	NIL	00%		228		1.50	Core loss: Probably Silica Sand
	229.25				229			229.25
229.25	RUN 1.55	0.30					0.30	SANDSTONE SILICA SAND (SAME AS ABOVE) 229.55
					230			Core loss: Cont^d next page

DRILL-HOLE NO UA5-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	230.80						1.25	Core loss, probably in Silica Sand. 230.80
230.80	RUN 1.50 232.30	0.05	3%		231		1.45	Core loss: probably in Silica Sand 232.25
					232		0.05	SANDSTONE/CLAYSTONE: Olive black 5Y2/1 to dark gray N3 alternate layers of sand & claystone; Sandstone fine to medium grain, loose, carbonaceous & coaly parting. claystone, semi hard, pyritic & wood pyritized 232.30
232.30	RUN 3.05 235.35	0.30	10%		233		2.75	Core loss: from top of sandst/ silica Sand, probably same as below 235.05
					234			SANDSTONE/SILICA SAND:- Pale yellowish brown 10YR 6/2 to very light gray N8, Soft & Loose, fine to medium grain, Sub rounded moderately sorted 95% Qtz, clean Sand.
					235		0.30	235.35
235.35	RUN 3.05 238.40	1.20	39%		236		1.85	Core loss: probably in Sandstone/ silica Sand. 237.20
					237			SANDSTONE:- Olive black 5YR 2/1, to very light gray N8, Soft & loose to semi hard alternate thin layers of clay & Carbonaceous matter, coaly partings. fine to medium grain, Sub angular poorly sorted, Sideritic nodules & bands Silty. Clay percentage increases downward.
					238		1.20	
238.40	RUN 3.05	3.05	100%		239		0.60	
							0.15	SILTYCLAYSTONE:- Olive black 5Y4/1, Semi hard, thin Sandy layers. Silty & Sideritic nodules & bands Carbonaceous layers & coaly partings increase down ward. pyritic.
							0.38	
					240		0.52	COAL:- Brownish black 5YR 2/1, blocky, pyritic resins, at places clayey parting fusain & vitrain bands.
								SILTYCLAYSTONE:- Same as above.
					1			
					2			

Form 3a

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DRILL-HOLE NO UAS-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	241.45				241		1.40	SILTSTONE:- Olive gray 5Y2/1, Semi hard, Sandy layers Sideritic nodules & Carbonaceous & Coaly partings, clayey, animal burrows.
241.45	241.80	0.35	100%				0.35	SILTSTONE: Same as above.
241.80					242		0.90	SILTSTONE:- Same as above
	RUN 2.70	2.70	100%		243		1.30	SILTY CLAYSTONE:- Olive black 5Y2/1 to Olive gray 5Y4/1 Semi hard, Sandy layers, Sideritic bands and nodules, thin Carb layers & Coaly partings
	244.50				244		0.50	CLAYSTONE:- Olive black 5Y2/1, semi hard, highly Carbonaceous layers & Coaly partings, at places Shaley lamination, Slickensides, pyritic, animal burrows
244.50					245		1.26	CARB SHALE / CARB CLAYSTONE: Olive black 5Y2/1 to brownish black 5YR2/1, semi hard, highly Carb & Coaly partings pyritic, wood pyritized, Sideritic nodules, Silty.
	RUN 3.05	3.05	100%		246		0.84	COAL: Brownish black 5YR 2/1, blocky, pyritic resin, at places clayey partings Vitrain & fusain bands.
							0.50	CARB SHALE / CARB CLAYSTONE: Same as above.
	247.55				247		0.45	SILTY CLAYSTONE:- Medium bluish gray 5B5/1, Semi hard Slickensides, pyritic, wood pyritized, wood debris Sandy. at places animal burrows, Slightly Carbonaceous.
247.55					248		1.75	SILTSTONE:- Medium bluish gray 5B5/1 Semi hard thin layers of fine grain Sand. Sideritic bands & nodules, clayey. Slightly Carbonaceous. clay percentage increases downward.
	RUN 3.05	3.05	100%		249		0.64	SILTY CLAYSTONE:- Medium gray N5, Semi hard Slightly Carbonaceous, pyritic & wood pyritized, at places animal burrows, Sideritic nodules.
					250			COAL:- Brownish black 5YR2/1, blocky, pyritic
					1			
					2			

DRILL-HOLE NO UAS-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							0.66	at places clayey partings, resin, vitrain and fusain bands.
	250.60						0.06	COAL
250.60	RUN 1.40	1.40	100%		251		1.34	CARBONACEOUS CLAYSTONE:- Olive black 5Y2/1 to brownish black 5YR2/1, semi hard, highly carbonaceous layers & coaly partings, pyritic & wood pyritized) slickensided Slickenside at places slightly silty
	252.0				252		0.15	
252.0	RUN 1.65	1.65	100%				0.85	COAL:- Brownish black 5YR2/1, blocky, pyritic, gypsum veins, resin, at places clayey partings, alternate bands of fusain & vitrain,
	253.65				253		0.30	CLAYSTONE:- olive gray 5Y4/1 to medium gray N5, semi hard slickenside, carbonaceous & coaly partings, pyritic at places silty, carbonaceous percentage decreases.
							0.35	
253.65	RUN 1.00	1.00	100%		254		1.00	SILTY CLAYSTONE:- Light gray N7. Semi hard, Slickenside Carbonaceous & coaly partings, pyritic wood pyritized, wood debris.
	254.65							SILTY CLAYSTONE: Light gray N7. Semi hard, Sandy & Silty, Slightly Carbonaceous & few coaly partings, wood debris, animal burrows.
254.65	RUN 2.05	2.05	100%		255		2.05	SILTY CLAYSTONE:- Light bluish gray 5B7/1, Semi hard, thin layers of fine to medium grain sand. Slightly Carbonaceous. & few thin layers of coaly partings pyritic, wood pyritized, wood debris, burrows
	256.70				256			
256.70	RUN 2.00	2.0	100%		257		0.53	
	258.70						0.28	COAL:- Brownish black 5YR 2/1, blocky, Pyritic, resin at places clay partings, Vitrain & fusain band
258.70	RUN 1.05	1.05	100%		258		1.19	CARB. CLAYSTONE:- Olive black 5Y2/1, Semi hard, Slightly Silty, Carbonaceous layers & Coaly partings gradually decreases down word. Slickenside, pyritic
	259.75				259		1.05	SILTY CLAY STONE:- Olive black 5Y2/1, semi hard, Carbonaceous layers & thin layers of coaly partings, pyritic, wood pyritized, wood debris slickenside, resin, sideritic bands
259.75					260			
					2			

DRILL-HOLE NO VAS #9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								nodules, animal burrows filled with silt and sand. at places thin layers of fine sand. & silt.
	RUN 2.95	2.95	100%		261		2.95	CLAYSTONE:- Olive black 5Y 2/1, Semi hard slickenside, pyritic, wood pyritized, slightly carbonaceous, siderite nodules & bands, at places silty & sandy. 263
	262.70				262			Core loss:- in claystone 263.70
262.70	RUN 1.25	0.55	44%		263		0.30	CLAYSTONE: Same as above
	263.95						0.70	CLAYSTONE:- Medium gray N5, Semi hard slickenside, carbonaceous layers and coaly partings, pyritic, wood pyritized slightly silty, animal burrows, wood debris, siderite nodules.
263.95	RUN 1.80	1.80	100%		264		0.25	265.75
	265.75				265		1.80	Core loss: from top of claystone, probably same as below. 265.85
265.75							0.10	
	RUN 2.95	2.85	97%		266		0.40	CLAYSTONE: Same as above.
	268.70				267		1.60	COAL:- Brownish black 5YR 2/1, blocky, pyritic resins, at places clayey partings vitrain & fusain bands.
268.70	RUN 2.85	2.85	100%		268		0.85	CLAYSTONE:- Olive black 5Y 2/1 to medium gray, Same as above. Silt Percent increases.
					269			SILTY CLAYSTONE:- Medium gray N5 to olive black 5Y 2/1, Semi hard, slickenside carbonaceous layers & coaly partings
					270			
					1			
					2			

DRILL-HOLE NO UAS#9

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					271			Siderite bands & nodules, animal burrows, pyrite & wood pyritized wood debris.
	271.55							271.55
271.55					272		0.85	Core loss :- from top of Silt-stone, probably same as below 272.40
	RUN 3.05	2.20	72%		273		2.20	SILTSTONE:- Medium gray N5, semi hard, alternating layers of fine grain sand, thin carbonaceous layers & coaly partings, animal burrows, pyrite, wood pyritized, wood debris, siderite nodules & bands, at places hard sandy patches & bands calcareous.
					274			SILTY CLAYSTONE: Olive gray 5Y4/1 to medium gray N5 semi hard, thin layers of medium grain sand, animal burrows filled with medium to coarse grain sand. at places highly carb & coaly layers, siderite bands.
274.60	274.60						0.45	
	RUN 2.10	0.67	32%		275		0.22	SANDSTONE:- Very light gray N8, hard & compact, medium to coarse grain, calc, sub rounded, moderately sorted lower part soft - loose, fine grain, poorly sorted. clayey. 275.27
					276		1.43	Core loss: from base of Sandstone, probably same as above 276.70
	276.70							SILTY CLAYSTONE:- Light-bluish gray 5B7/1, semi hard at places sandy, pyritic, wood pyritized wood debris, animal burrows, slightly carbonaceous but carbonaceous content increases down ward.
276.70	RUN 1.20	1.20	100%		277		0.90	
	277.90						0.30	CARBONACEOUS CLAYSTONE:- Olive black 5Y2/1, semi hard slightly silty, slickensided, pyritic, wood pyritized, wood debris, coaly partings.
277.90					278		0.40	
	RUN 2.55	2.55			279		1.55	SILTSTONE:- Medium gray. N5, semi hard, animal burrows at places sandy, carbonaceous matter siderite nodules, at places clayey.
					280		0.60	SILTY CLAYSTONE. Olive black 5Y2/1, semi hard slickensided, carbonaceous, pyritic
					1			
					2			

Form 3a

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DRILL-HOLE NO UAS #9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								wood pyritized, siderite & silty nodules. Carbonaceous matter increases downward at places slightly sandy.
	280.65							
280.65	RUN 2.95	2.95	100%		281		0.70	CLAYSTONE:- Olive black 5Y2/1, semi hard, slickenside pyritic, wood pyritized, wood debris Carbonaceous & coaly parting increases downward.
					282		1.10	Dirty coal / Highly Carbon claystone:- Olive black 5Y2/1 to brownish black 5YR2/1, alternate layers of dirty Coal & carbonaceous clay. pyritic, slickenside, resin
							0.35	
					283		0.80	COAL:- Brownish black 5YR2/1, brownish black streak, blocky, pyritic, resins, at places clayey partings & gypsum veins, bands of vitrain and fusain, more pyritic in lower part.
	283.60							
283.60	RUN 2.95	2.95	100%				0.60	
					284			Highly Carbonaceous claystone:- Brownish black 5YR2/1 to olive black 5Y2/1, alternate bands of dirty coal & carbonaceous clays. Slickenside, pyritic, wood debris wood pyritized.
					285		1.85	
					286		0.50	CLAYSTONE:- Medium gray N5, semi hard, carbonaceous and coaly partings, pyritic & wood pyritized, wood debris, few shell fragments. animal burrows, silty.
	286.35							
286.35	RUN 2.85	2.85	100%				0.45	CLAYSTONE:- Medium gray N5, semi hard, slickenside slightly silty, animal burrows, Carbonaceous wood debris, pyritic wood pyritized
					287		0.40	Dirty coal / Highly carbonaceous claystone:- Olive black 5Y2/1 semi hard, alternate bands of dirty coal & claystone, pyritic, resin, wood pyritized
							0.30	
							0.60	CLAYSTONE:- Medium gray N5, semi hard, slickenside slightly silty, animal burrows, Carbonaceous wood debris, pyritic
					288			/ Highly Carbonaceous claystone:- Olive black 5Y2/1, semi hard, siderite nodules animal burrows, wood pyritized, at places resin
							1.10	
	289.20				289			
289.20	RUN 0.90	0.90	100%		290		0.90	SILTY CLAYSTONE:- Olive black 5Y2/1 semi hard, siderite nodules, animal burrows slickenside, pyritic & wood pyritized at places thin layers of silt.
								SILTY CLAYSTONE: Same as above, only the lower part sandy.

1

2

Form 3a

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DRILL-HOLE NO UA5#9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
290.10	290.10							290.10
							0.45	Core loss from top of Sandstone / Claystone 290.55
	Run 3-05	2.60			291		1.45	SANDSTONE / CLAYSTONE :- Interlayered, medium gray N5 to olive black 5Y 2/1, Semi hard Sandstone, fine to medium grain, Sub rounded moderately sorted, Carbonaceous, Sideritic nodules. Clay st. olive black, highly carbonaceous, animal burrows, Silty.
	293.15				292		1.15	SANDSTONE :- Olive black 5Y 2/1, Semi hard fine to medium grain, at places coarse grain, Sub angular, poorly sorted, Carbonous layer & coaly partings, at places animal burrows
					293			T.D 293.15 m Bottom of Hole.
					294			
					5			
					6			
					7			
					8			
					9			
					0			
					1			
					2			

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0.00	2.00				2		2.00	ALLUVIUM, Light brownish gray, Silty, micaceous clay. 2
2.00	4.00				4		2.00	ALLUVIUM Light brownish gray, Silty, micaceous clay. 4
4.00	6.00	NON CORING			6		2.00	SAND, Clayey, Light brownish gray, Mostly subrounded few subangular, dominantly quartz grains Fine grained. Medium size grains rare About 10% dark coloured grains. Few flakes of muscovite and rare dark brown flakes of biotite. 6
6.00	8.00				7		2.00	SAND, Clayey, Same as above. 8
8.00	10.00				9		2.00	SAND, Light gray, Fine grained, coarser grains rare Mostly subrounded few subangular, dominantly quartz grains. About 20% coloured grains mostly light to dark green. Flakes of muscovite and dark brown and green biotite common may be termed as micaceous sand. 10
					2			

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10	12				1 2		2.00	SAND, Same as above. 12
12	14				3 4		2.00	SAND. Light gray, fine grained, Coarser grains rare, Mostly subrounded, few subangular, dominantly quartz grains. About 20% dark coloured, unidentifiable, mostly light to dark green grains. Flakes of muscovite and dark brown and green biotite common. 14
14	16	NON-CORING			5 6		2.00	CLAY Light brownish gray, sandy, micaceous 16
16	18				7 8		2.00	CLAY, Light brownish gray, Sandy, micaceous 18
18	20				9 0		2.00	CLAY, Light gray, Sandy, Silty, micaceous 20
					1 2			

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20	22				1 2		2.00	CLAY, Light gray, Same as above 22
22	24				3 4		2.00	CLAY, Light gray, Same as above. 24
24	26	NON CORING			5 6		2.00	CLAY, Sandy, Light gray, Sand fine grained subrounded to subangular. Dominantly quartz grains. About 20% dark coloured grains. Flakes of muscovite and dark brown and green biotite common. 26
26	28				7 8		2.00	CLAY, Sandy, Light gray, Same as above 28
28	30				9 0		2.00	CLAY Sandy, Light gray, Same as above. 30
					1 2			

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30	32				2		2.00	SAND, Light gray. Fine grained. Rare medium grains. Mostly subrounded. Few angular. Dominantly quartz grains. 10 – 20% dark coloured grains. Muscovite flakes common. Few dark brown biotite flakes 32
32	34				4		2.00	SAND, Same as above 34
34	36	NON CORING			6		2.00	SAND, Same as above 36
36	38				8		2.00	SAND, Light gray, Fine grained, Dominantly subrounded Few subangular. Dominantly quartz grains 10 – 20% dark coloured grains. Muscovite flakes common. Few dark brown biotite flakes 38
38	40				0		2.00	SAND, Light gray, Micaceous, Fine grained, dominantly subrounded few subangular grains. Dominantly quartz grains 10 – 20% dark coloured grains Muscovite flakes common. Rare dark brown biotite flakes. Few translucent grains greenish tinge and few with light yellowish tinge 40

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40	42	NON CORING			1 2		2.00	SAND, Light gray, Micaceous. Fine grained. Few medium size grains, Subrounded to subangular Dominantly subrounded. Muscovite flakes common Few dark brown biotite flakes. Dominantly quartz grains 10 – 20% dark coloured grains 42
42	44				2 3 4		2.00	SAND, Light gray, micaceous, fine grained, Subrounded to subangular, mostly subrounded grains. Medium size grains rare. Dominantly quartz grains 10 – 20% dark coloured grains. Few muscovite flakes. Few dark brown biotite flakes. 44
44	46				4 5 6		2.00	SAND, Light gray, Micaceous, fine grained, subrounded to subangular, mostly subrounded. Dominantly quartz grains, About 15% dark coloured grains Few muscovite flakes. Few dark brown biotite flakes 46
46	48				6 7 8		2.00	SAND, Light gray, micaceous, fine grained, subrounded to subangular, mostly subrounded grains. About 80% quartz grains. About 15% dark coloured probably ferromagnesian grains. Few flake of muscovite. Few dark brown biotite flakes 48
48	50				8 9 0		2.00	SAND, Light gray, fine grained. Medium and large size grains rare. Mostly subrounded few subangular grains. Dominantly quartz grains 10 – 20% dark coloured grains. Muscovite flakes common. Rare dark brown and green biotite flakes. Slightly clayey. 50
					1 2			

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
50	52				1 2		2.00	SAND, Same as above. 52
52	54				3 4		2.00	SAND, Micaceous, light gray, fine grained, few medium size grains. Mostly subrounded, few subangular Dominantly quartz grains. About 25% dark coloured unidentifiable grains. Flakes of muscovite and dark brown and green biotite common. Most of the coloured grains are light to dark green 54
54	56	NON CORING			5 6		2.00	SAND, Same as above 56
56	58				7 8		2.00	SAND, Same as above. 58
58	60				9 0		2.00	SAND, Same as above. 60
					1 2			

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RUN	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60	62	RUN	CR		1 2		2.00	SAND, Light gray, Clayey, Sand fine grained, medium size grains, are: Mostly subrounded and subangular, dominantly quartz grains, About 25% dark coloured, ferromagnesian, mostly light to dark green grains, Flakes of muscovite and dark brown and green biotite common May be termed as micaceous clayey sand. 62
62	64	NON-CORING			3 4		2.00	SAND, Same as above, 64
64	65				5		1.00	CLAY, Light gray, contains fine grained sand which probably has dropped from the upper layers 65
65	66	Run 1.00	Core 0.70		6		0.30	CORE LOSS 65.30
							0.70	CLAY, Brownish gray, micaceous, silty and sandy at base 66
66	69	Run 3.00	Core 0.60		7 8 9		2.40	CORE LOSS 68.40
							0.60	CLAY, Gray, sticky, slightly micaceous 69
69		Run 3.00	Core 2.20		0 1 2		0.65	CLAY, Gray, sticky, slightly micaceous 69.65
							3.55	VARIEGATED CLAYS, Sticky, yellow, red, brown, maroon and dominantly gray coloured, Gypsiferous 73.20

Form 3a

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DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	TO	CORE RUN	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					70.20			70.20
							0.45	SANDSTONE. Clayey, ferrugenous, red, brown, maroon, and yellow coloured. Hard. V. Heavy upto 3mm thick veinlets of gypsum fine to coarse, subrounded quartz grains in a clayey silty, ferrugenous matrix
					1			70.65
					71.20		0.55	VARIEGATED CLAYS, Red, maroon, brown, yellow and gray Ferrugenous. Sandy near top. Few upto 5 mm thick gypsum veinlets. Lower part more ferrugenous, hard and heavy.
	72						0.80	CORE LOSS 71.20
72					2			72
							0.45	MUDSTONE. Dark gray, compact. Few patches of very fine grained pyrite. Slickensided. Few carbonaceous and coaly fragments
							0.54	72.45 SHALE, Sandy, Silty. Dark gray. Thin laminations of silt and sand Few thin laminations of coal/carbonaceous matter
		3.00	1.80		3		0.81	72.90 SANDSTONE, Dark gray, muddy. Dominantely fine grained. Coarse grains rare Fine grains subangular coarser grains subrounded. Mostly quartz grains. Few patches of very fine grained pyrite. Few thin fragments of coal/carbonaceous matter.
					73.80			73.80
					4		1.20	CORE LOSS. Probably Sandstone
	75							75
75					5			SANDSTONE: CORE LOSS same as above.
								77.65
					6		2.65	SANDSTONE: Medium gray, soft, fine to medium grain, mostly subrounded grain, cont
		3M	0.35		7			SANDSTONE & SILTY CLAYSTONE INTERBEDDED. Gray, semi hard, semi compact, fine to medium Sandstone mostly rounded grains, Sandstone + Silty claystone interlayered and interlaminated contain pyrite and few Sideritic nodule
					77.65			
					77.80		0.15	
	78						0.20	78
78					78			CORE LOSS
								SANDSTONE: Same as below.
					9			
		3.00	NIL				3.00	
					0			
	81				1			81
					2			

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RUN	CORE % CR	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								81
81					81.05		0.05	SANDSTONE : off white, soft, friable, fine to coarse grains fine to medium are subrounded and coarse are rounded mostly silica quartz grain are transparent, few brick grain and also contain coaly fragments. 81.05
		3M	0.30		82		2.70	SANDSTONE / DIRTY COAL / CARBSHALE
					83			CORE LOSS 83.75
	84				83.75 / 83.78		0.03	CARBSHALE : Brownish black, semi hard, semi compact contain coaly layer interlami nated with carbshale also contain pyritic grains. 84
84					84		0.22	SILTYCLAYSTONE + SANDSTONE INTERBEDDED 0.22
					84.25		0.25	Gray, semi hard, semi compact contain fine sandy layers fine to coarse sandstone, mostly subrounded grains. few woody fragments and siderite at the base. also contain contain some carby matarial.
		3M	1.30		85		1.70	SANDYCLAYSTONE : 0.25 Gray, semi hard, semi compact, fine to medium sandstone, mostly subrounded grains. few coarse grain are rounded contain .05 siderite nodule at the base and carby matarial present.
					85.95 / 86.16		0.16	MUDSTONE : CORE LOSS SAME AS BELOW.
	87						0.84	MUDSTONE : Dark Gray contain carby matarial also pyritic
87					87			SANDSTONE : Medium Gray fine to coarse grained, fine to medium subrounded and coarse are rounded, also clayey
					87.30		0.30	SILTY SANDY CLAYSTONE & CLAYSTONE INTERBEDDED
		2.65	0.30		88		2.35	Medium Gray, semi compact, semi hard, fine grain sst mostly rounded grain siderite at places and also contain siderite nodule.
					89			SILTY SANDY CLAYSTONE + CLAYSTONE INERBEDDED Same as above
	89.65				89.65			SANDSTONE : Same as below CORE LOSS 89.65
89.65								CORE LOSS
					90			
					2			

DRILL-HOLE NO : UAT-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RUN	CORE % CR	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								SANDSTONE : CORE LOSS same as below 91.65
					91		2.0	SANDSTONE : Gray, fine to medium gr, mostly subrounded grain, clayey 91.73
		3.05	1.05		91.65		0.08	SANDSTONE + SILTYCLAYSTONE INTERBEDDED. fine grain sst, mostly subrounded grains, plant fragments at one place. Sandstone + Silty claystone interlaminated semi hard, Semi compact 91.93
					91.73		0.20	
					91.93		0.07	
	92.70				92		0.70	SANDSTONE : Gray, fine to medium grain mostly rounded grain, clayey 92.00
92.70					92.70		0.47	SILTYCLAYSTONE : Gray, Semi hard, Semi compact, sandy patches at top and at at the base. F-Med sst, mostly sub-rounded, contain pyritic grains at places 92.70
					3			
					93.17		0.25	SANDSTONE & SILTSTONE INERBEDDED : Lt gray sst mostly fine grain, gray Siltstone slightly clayy or slightly carby sst & Siltstone interlaminated 93.17
		3.05	0.72		93.42			
					4		2.33	SANDSTONE : DKGY, Clayey few Sideritic nodule at places. fine to medium sst, mostly subrounded grain slightly carby at base 93.42
					5			
	95.75				95.75			SANDSTONE : CORE LOSS 95.75
95.75					6			CORE LOSS
								SANDSTONE ? Same as above.
					7		3.05	
		3.05	NIL					
					8			
	98.80							98.80
98.80					9			CORE LOSS
							1.90	SANDSTONE : Same as below.
					0			
		3.05	1.15					100.70
					100.70			SANDSTONE
					1		1.15	Light gray. Fine to coarse grained, poorly sorted Fine grained subangular, Coarser grained subrounded More than 95% quartz grains. Few dark coloured unidentifiable grains, mostly, probably carbonaceous. One hard, light brown coloured 2 cms thick sideritic ? nodule at the base
	101.85							101.85
					2			

Form 3a

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DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	TO	CORE RUN	CORE % CR	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1			101.85
101.85					2			SANDSTONE/CARBSHALE CORE LOSS 104.05
		3.05	0.85		3		2.20	CARBSHALE/SANDSTONE INTERBEDDED Light yellowish brown, sandstone, fine to medium grained mostly rounded grains, Brownish black carbshale contain pyrite. 104.12
	104.90				104.85 104.12		0.07	
					104.90		0.78	SANDSTONE & SILTYCLAYSTONE INTERBEDDED. Medium Gray. Fine to medium sst. mostly rounded grains, sandy patches at places and sandstone & siltyclaystone interlaminated 104.90
104.90					5 105.12		0.22	SANDSTONE : CORE LOSS 105.12
					106.09		0.97	SILTYCLAYSTONE & SANDSTONE INTERBEDDED. Gray, Semi hard, Semi compact, sandstone and siltyclaystone interlayred and interlaminated, Fine grained sandstone mostly subrounded grains, Light yellowish brown sideritic nodules at places 106.09
		3.05	2.83		106.39		0.30	
					106.60		0.21	
					106.68		0.08	
					106.81		0.13	
					106.85		0.04	
					107.09		0.24	SANDY CLAYS : Gray. fine to medium sst, mostly subrounded grain, pyritic, contain plant fragments, slightly carby. 106.39
							0.86	SILTYCLAYSTONE : Medium Gray, semi hard, semi compact Sandy patches at places, contain pyrite 106.60
	107.95				107.95			COALYSHALE Brownish black, contain coaly chip and frag. contain pyrite 106.68
107.95					8			CARBSHALE : Brownish black. semi hard, semi compact rooted 106.81
		3.05	2.72		9		2.72	COALY SHALE : Brownish black, same as above 106.85
					0			CARBSHALE : Brownish black, pyritic, rooted 107.09
					110.67			CARBYCLAYSTONE : Gray, semi hard, semi compact, rooted, pyritic 107.95
	111				111.00		0.33	CARB CLAYSTONE : Dark Gray, semi hard, semi compact, very fine carby layer at places and very fine sandy layer towards base, pyritic grains at places. fine to medium sandstone, mostly subrounded grain. 110.67
					2			CARB SANDSTONE : CORE LOSS Same as below 111.0

Form 3a

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DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	TO	CORE RUN	CORE % CR	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1			111
111.00								CORE LOSS
		3.05	NIL		2 3		3.05	
	114.05				4			114.05
114.05					114.12		.07	CARBONACEOUS SANDSTONE 114.12
		2.70	0.60		5		2.10	CORE LOSS CARBSANDSTONE/COAL LOSS 116.22
								COAL (UAT-1-1) 116.50
					6 116.22		0.28	CARBONACEOUS SHALE : Brownish black, semi hard, semi compact coaly fragment, plant frag replace by pyrite 116.50
					116.50		0.08	CARB CLAYSTONE : Dark Gray, semi hard, semi compact coaly fragments, Pyritic, rooted. 116.75
	116.75				116.75		0.17	
116.75					7 117.15		0.40	UNDERCLAY : Brownish black, Semi Compact, slightly clayey carbonaceous layer at places. plant impression, sandy towards base 117.15
							0.84	SILTSTONE + CARBSHALE INTERBEDDED. Gray siltstone Semi hard, Semi compact, slightly clayey, carbonaceous layer at places plant impression sandy towards base 117.99
		3.0	2.25		117.99 8		0.25	SANDSTONE : Gray, clayey, fine grained. sst mostly subrounded grains, 118.24
					118.24		0.35	SANDY CARBSHALE : Dark Gray, Semi hard, semi compact carb shale interlaminated with sst, fine to med sst, mostly subrounded grains 118.59
					118.59		0.41	SANDSTONE : Clayey Gray, fine to medium sst, carbonaceous contain coaly fragments. 119.0
	119.75				119		0.75	CORE LOSS : SANDSTONE : Same as above 119.75
119.75					119.75		0.25	SANDSTONE : CLAYEY, Semi hard, Semi compact, fine gr mostly subrounded grain, very carby layer 120.00
					0			
					1			
					2			

DRILL-HOLE NO. NAT-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	2.50	0.25			120.00			CORE LOSS 120.00
	122.25				1		2.25	SANDSTONE : Same as above
					2			122.25
122.25	1.00	NIL						CORE LOSS
	123.25				3		1.00	123.25
123.25							0.30	CORE LOSS
	1.50	1.20			123.55			123.55
					4		1.20	SANDSTONE, Light gray, Fine to medium grained, Coarse grains rare. Subangular to subrounded. More than 95% quartz grains. Usually finer grains subangular and coarser grains subrounded Friable, loose.
	124.75							124.75
124.75					5		0.70	CORE LOSS
	1.50	0.80						125.45
					125.45		0.80	SANDSTONE, Light gray. Fine to medium grained Coarse grains rare Subangular to subrounded. More than 95% quartz grains Friable. loose, Few dark coloured unidentifiable grains Probably carbonaceous shale/shale fragments
	126.25				6			126.25
126.25							1.90	CORE LOSS
					7			128.15
	Run 3.00	1.10						SANDSTONE. Light gray, loose, friable, fine to medium grained Few coarse grains. Dominantly subrounded, finer grains subangular. More than 95% quartz grains. Few dark coloured, unidentifiable grains, probably fragments of carbonaceous shale/shale
					8		0.85	129
					128.15			SANDSTONE, Light gray, compact, fine to coarse grained Dominantly medium grains. More than 90% quartz grains. Mostly subrounded. Finer grains subangular Few bands (upto 2 cms thick) of very fine, hard, heavy, light brownish gray material
	129.25				9		0.25	129.25
129.25					129.25			SANDSTONE : Light gray, with gray coloured, hard, heavy, nonacalcareous nodule. Probably siderite. Nodule contains disseminated fine grained pyrite and carbonaceous matter.
	Run 3.00	0.02			129.27		0.02	129.27
					0			CORE LOSS
					1			
					2			

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	TO	CORE RUN	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1		2.98	CORE LOSS
	132.25				2			132.85
132.25	133.55 (1.30)	NIL			3		1.30	CORE LOSS :
133.55					4		0.67	133.55 CORE LOSS : 134.22 SANDYCLAYS : Gray. semi hard, semi compact, carbonaceous contain yellowish brown siderite nodule at places, sticky clay at base contain pyritic grain, resin
		1.70	1.03		134.22		0.30	
					134.52		0.25	CARBONACEOUS SANDSTONE : Dark gray. fine to medium gram mostly subrounded grains. few coarse are rounded, clayey slightly pyritic, hard towards base.
					134.77		0.14	
	135.25				134.91 5 134.25		0.34	135.25
135.25					135.35		0.10	DIRTY COAL (0.14) : Brownish Black. Semi hard, compact resin, pyritic 134.91
					135.85		0.20	
					135.85		0.30	CLAYSTONE (0.34) : Gray. semi hard, semi compact, few fine coaly fragment, slightly carbonaceous, plant fragment Pyritic, Slickenside compaction 135.25
					135.93		0.08	CLAYSTONE : SAME AS ABOVE 135.35
					6 136.33		0.40	CARBSHALE : Dark Gray. Semi hard, Semi Compact, contain pyrite (0.20) 135.55
		2.85	2.85				1.10	COALY SHALE (0.30) : Dark Gray. Semi hard, Semi compact pyrite, coaly fragments 135.85
					7 137.43			CARBCLAYSTONE (0.08) . Dark Gray. Semi hard, Semi compact Sticky, slickenside compaction, plant fragment, pyritre 135.93
					137.73		0.30	UNDER CLAY (0.40) : Gray, Semi hard. Semi Compact, rooted Slickenside Compaction., pyritic, grades silty towards base. light yellowish brown siderritic nodule at the top 136.33
					138.18		0.37	
138.10					138.20		0.10	SILTY SILTSTONE (1.10) : Gray. Semi hard, semi compact, Carbonaceous Slightly clayey. light yellowish brown siderritic nodule at the top. fine coaly chip at base 137.43
							2.75	SANDSTONE (0.30) : Med. Gray, Semi hard, Semi Compact, fine gr. mostly Subangular grains, slightly clayey, Silty 137.73
		3.05	2.85		9 0			SILTSTONE (0.37) : Med. GY, Semi hard, semi Compact. slightly Clayy contain one light brown Siderritic nodule. 138.10
					140.95			SILTSTONE (0.10) : Same as above 138.20
	141.15				141.15	X	D.20	SANDSTONE (2.75) : Med GY. Semi hard, Semi Compact F.G Subangle to Sub rounded. slightly Carboy at places, Cross bedded 140.95
141.15					2			SANDSTONE (0.20) : Same as above Core Loss 141.15

Form 3a

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DRILL-HOLE NO :UAT-1

CORE RECOVERY FROM	TO	CORE RUN	CORE % C.R	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1			141.10
141.10							0.96	SANDSTONE: CORE LOSS 142.11
		3.05	2.09		2 142.11		0.57	SANDSTONE: Light yellowish brown, hard, compact F–medium grained mostly subrounded, clayey towards base massive 142.68
					142.68 142.73		0.05	SILTY CLAYSTONE: Light gray, semi hard, semi compact Sandy burrow? some fine black carby material 142.73
	144.20				3 4		1.47	SANDSTONE: Lt. gray and light yellowish brown, semi hard, compact, slightly clayey. contain. some parting at places F–Med mostly sub-rounded grain, also contain pyrite. 144.20
144.20							0.78	SANDSTONE: Light gray. semi hard, semi compact F–M grained, sideritic, heavy, soft at base mostly rounded grains.
		3.05	0.80		144.98 145.0		0.02	144.98
					6		2.25	COAL: Brownish black, pyritic, Brittle 145.0
								COAL/ SANDSTONE CORE LOSS
	147.25				7 147.25		0.05	
147.25					147.30		0.40	SANDSTONE / COAL INTERBEDDED Lt GY. Sandstone, fine to medium, subangular to Subrounded, Brownish black coal, A good quality 147.30
					147.70		0.10	COAL: LOSS 147.70
		3.05	2.65		147.80 148.10 8		0.30	COAL: Brownish black, brittle, pyritic contain sandy patches 147.80
					9		2.20	SILTY CLAYSTONE: Medium Gray. semi hard, semi compact slightly carby contain plant frag and pyrite 148.10
	150.30				0 150.30			SANDSTONE: Silty gd gray, semi hard, semi compact clayey, fine grained sandstone, mostly rounded grain contain coaly fragment at places also fine carby layer at places more sandy towards base. 150.30
					1			
					2			

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
		RUN	L R					
150.30								SANDY SILTSTONE: Core loss same as above.
		3.05	0.20				2.85	SILTY SANDSTONE: Med Gray: Medium hard, compact, fine to medium sst, mostly rounded grains clayey, contain sideritic nodule of light yellowish brown colour.
	153.35				153.15			
153.35					153.35		0.20	153.35
		3.05	NIL				3.05	CORE LOSS
	156.40							156.40
156.40							1.58	CORE LOSS. Probably Sandstone.
		1.68	0.10					157.98
	158.08				157.98		0.10	SANDSTONE. Light yellowish gray, hard compact, fine to medium grained, mostly subrounded grains. 158.08
158.08		0.42	NIL				0.42	CORE LOSS
	158.50							
158.50					158.50			CORE LOSS
		0.91	NIL				0.91	
	159.41				159.41			
159.41								
	159.75	0.34	0.34		159.75		0.34	SANDSTONE. Light yellowish gray, semi hard, compact fine to coarse grain, fine to medium are subangular and coarse are subrounded, clayey at the top and at the base, fine carby layer at the middle contain coaly fragments. 159.75
159.75								CORE LOSS

DRILL-HOLE NO :UAT-1

CORE RECOVERY FROM	TO	CORE RUN	CORE % CR	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
161.50		1.75	0.30		161.20		1.45	SANDSTONE : CORE LOSS Same as below
					161.50		0.30	SANDSTONE : Medium gray, hard, compact clayey fine to coarse grain, coarse are subrounded, mostly transparent grains, few black grains
161.50					1			161.50
	162.80	1.30	NIL		2		1.30	CORE LOSS
162.80					162.80			162.80
	164.30	1.50	NIL		3		1.50	CORE LOSS
					4			164.30
164.30								SANDSTONE, CORE LOSS Same as below
	165.30	1.10	0.22		165.22		0.78	165.08
165.30					165.35		0.15 / 0.07 / 0.05	SANDSTONE: light gray, soft, fine to coarse grain fine to medium are subangular and coarse are subrounded, mostly Slice quartz grain and trans lucent to transparent few pink grain also present.
	165.85	0.55	0.50				0.50	SILTY CLAYSTONE: Medium gray, semi hard semi compact contain coaly material
165.85					6			165.30
	167.35	1.50	NIL		7		1.50	SILTY CLAYSTONE : CORE LOSS
								165.35
167.35					8			SILTY CLAYSTONE : Same as above
	168.35	1.0	NIL				1.0	165.85
168.35								CORE NIL
	168.90	0.55	NIL		9		0.55	167.35
168.90								CORE NIL
	169.90	1.0	NIL		0		1.0	168.35
169.90					1			CORE NIL
					2			168.90
								CORE NIL
								169.90
								CORE LOSS

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	TO	CORE RUN	CORE % CR	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	170.90	1.0	NIL				1.0	CORE NIL — 170.90
170.90	171.95	1.05	0.18		1		.87	: CORE LOSS — 171.77
					171.77 / 171.95		0.18	SANDSTONE: Light gray, hard, compact fine to coarse grained, mostly rounded grains contain pyrite and black grains — 171.95
171.95	172.95	1.0	0.55		2 / 172.50		0.55 / 0.45	SANDSTONE: Same as above — 172.50
172.95	173.95	1.0	NIL		3		1.0	CORE LOSS — 172.95 / CORE NIL — 173.95
173.95	175.0	1.05	NIL		4		1.05	CORE NIL — 175.00
175.0	176.0	1.0	1.05		5 / 175.95		.95	CORE NIL — 175.95
176.0	177	1.0	0.55		6 / 176.55		0.55 / 0.45	SANDSTONE: light gray, hard, compact slightly clayey, fine to medium grained few coarse grained, mostly subrounded grains very fine Thin layer of carbonaceous at top and black parting. — 176.00
177.0	178	1.0	NIL		7		1.0	SANDSTONE: light gray, off white, soft, fine to coarse grained, fine to medium subangular to subrounded grain and coarse are mostly subrounded and mostly also silica quartz grains and all transparent to trasluceht — 176.55
178.	179.50	1.50	0.45		8 / 178.45		0.45 / 1.05	CORE LOSS 0.45 — 177.00 / CORE NIL 1.05 — 178.00
					9 / 179.50			SANDSTONE: Light gray, off white soft, fine to coarse, fine to medium subangular to subrounded Coarse are mostly subrounded but the percentage of coarse grain are reduced. All mostly silica quartz grains and transparent to translucent, few black partings present — 178.45
					0			CORE LOSS 1.05 — 179.50
					1			SANDSTONE SAME AS ABOVE
					2			

Form 3a

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DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
		RUN	CR					
		1.60	0.95		180.45		0.95	SANDSTONE : Same as above
	181.10				181.10		0.65	SANDSTONE : CORE LOSS
181.10							0.55	SANDSTONE : Same as above
		1.15	0.55		181.65			181.65
	182.25				2		0.60	SANDSTONE : CORE LOSS 182.25
182.25								CORE NIL
		0.75	NIL				0.75	183.00
	183.0							SANDSTONE : CORE LOSS
183.0					3			183.95
		1.20	0.25				0.95	SANDSTONE : light yellowish gray, hard, compact, fine to medium, few coarse grained mostly subrounded sideritic and pyritic globules, burrow ? at the top, some cavity filled by woody fragment
	184.20				183.95			
184.20					4		0.25	
		1.0	NIL				1.00	CORE NIL
	185.20				5			185.20
185.20					185.25			SANDSTONE : Light brownish gray, Medium to coarse grained, mostly subrounded, dominantly quartz grain Hard, Compact
		2.0	1.20				0.80	185.25
					186.05		0.32	CORE LOSS 0.80
					186.37		0.19	186.05
					186.56		0.18	CLAY : 0.32 Light gray, contain lenses of sand, Sand consist of quartz grain, fine to coarse, subrounded contain carbonaceous and coaly material and one Cms Thick Coal band
					186.74		0.46	SANDSTONE : 0.19 Muddy, interlaminated with thin coal band
	187.20				7			SILTSTONE : 0.18 Dark gray, contain few patches of very fine grained pyrite, coal laminations few mm Thick
187.20					187.27		0.91	Claystone : 0.46 Light gray. At places Slickensided sparsly rooted
		1.95	1.88		8			187.20
					188.18		0.25	CORE Loss 0.07
					188.43		0.10	187.27
					188.53		0.16	SILTY CLAYSTONE : 0.91 Med. GY, Semi hard, Semi Compact, grading clayey towards base contain pyritic globules and sandy patches at places sst fine gr. mostly subrounded grains.
					188.69		0.46	188.18
	189.15				9			Claystone : 0.22 M.GY to DK.GY, grading Calc towards base, plant frag coaly frag.
					0			
					1			
					2			

DRILL-HOLE NO : UAT-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
189.15		RUN	CR				0.27	(0.10) Carb Claystone ; Dark Gray, Semi hard, Semi compact, .02 cm more Carbonaceous at top, contain plant leaf impression 188.53
	189.90	075	0.10		189.42		0.23	0.16 CARBSHALE / DIRTY COAL Brownish black Semi hard, Semi Compact, Slightly pyritic 188.69
					189.65		0.05	0.46 CARBCLAYSTONE: / UNDER CLAY : Med GY Semi hard, Semi compact, rooted, pyritic, coaly frag present 189.15
					189.70		0.20	0.27 CARBCLAYSTONE : Gray to Dark GY. semi hard Semi compact, pyritic, plant frag, grades coaly towards base, very fine micaceous gr. ? 189.42
								0.23 COAL: Brownish black, contain Maceraste and pyrite, resin also contain very fine gypsum layer 189.65
								COAL (.05?) Loss 189.70
								UNDERCLAY: Light gray, Semi hard, semi compact rooted, Silickenside compaction 189.90

1 2 3 4 5 6 7 8 9 0 1 2

Form 3a

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DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
189.90		RUN	CR					189.90
							1.32	SILTSTONE: Med. GY, semi hard, semi compact, clayey clayey material decreasing towards base, rooted sandy at the base 191.22
		3.0	1.50		1 191.22			
					191.40		0.18	SANDSTONE: Light gray, soft & semi hard, fine grained, mostly subrounded grain, some coaly material at the base 191.40
	192.90				2		1.5°	CORE LOSS 192.90
					192.90			CORE LOSS 193.97
192.90		1.40	0.33		3		1.07	SANDSTONE: Light yellowish gray, soft fine to medium, few coarse grained, mostly rounded grains. All transparent to translucent
	194.30				193.97		0.33	
194.30		1.0	0.80		194.70		0.40	SANDSTONE: Light gray, soft, fine to coarse grained mostly subrounded grains contain carby partings 194.70
					194.82		0.12	CORE LOSS SANDSTONE/CARBSHALE 194.82
					194.88		0.06	CARBSHALE: Brownish black, resin, slightly pyritic 194.88
	195.30				5		0.42	UNDERCLAY: Gray, semi hard, semi compact, highly rooted slickenside compaction, slightly pyritic and slightly silty 195.30
195.30		1	1.0		196.30		0.90	
					6			
	196.30				196.36		0.10	UNDERCLAY: Same as above 196.20
196.30							0.52	SILTYCLAYSTONE: Dark Gray, semi hard, semi compact Carbonaceous slickenside compaction
		1.4°	0.70		196.82		0.18	
					197		0.70	
	197.70						0.04	196.30
197.70					197.86		0.56	SILTSTONE: 0.52 Light brownish gray, semi hard, semi compact contain very fine carby layer towards base, plant leaf impression, coaly fragment grades into SST towards base, clayey 196.82
		1.0	0.60		8			
	198.70				198.30		0.40	SANDSTONE: 0.18 clayey: Med. GY, semi hard, semi compact slightly silty very fine sst, mostly subrounded grains contain fine carby partings and also fine carbonaceous layer towards base 197.00
198.70		0.65	NIL		198.70		0.65	SANDSTONE: 0.70 CORE LOSS 197.70
	199.35				9			SANDSTONE: 4.56 Light gray, soft, fine to coarse gr. 75% fine to med 25% coarse gr, mostly subrounded and transparent to translucent contain fine black carbonaceous 198.30
199.35					199.41		0.12	CORE LOSS 0.30 198.70
					0			CORE NIL 0.65 199.35
					1			
					2			

DRILL-HOLE NO : UAT-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
		RUN	CR				0.91	Carbonaceous Sandy Claystone : Dark gray, semi hard semi compact, coaly fragment, sandstone, fine to medium grained mostly subrounded grains set, claystone, coaly frag interlaminated 199.47
		3.05	1.85		200.38		0.82	
					201.20		1.20	Silty Claystone : Gray, Dark gray, semi hard, semi compact, pyritic, slickenside compaction, contain fine carby parting, plant fragments, very fine carby layer towards base 201.38
	202.40							Silty Sandstone : Gray, semi hard, semi compact fine grained, sandstone poorly sorted, clayey also contain very fine carby layer, sideritic at base 201.20
202.40		1.70	0.95		203.15		0.75	Sandstone : Core Loss 202.40
	204.10				204.40		0.95	Sandstone : Core Loss 203.15
204.10		1.35	0.45		204.55		0.45	Sandstone : Light gray, off white, soft, fine to medium, and few coarse grained, subangular to subrounded grained, mostly subrounded, transparent & translucent mostly silica quartz grains, some black parting of carbonaceous matter 204.10
	205.45						0.90	Sandstone : Same as abov 204.55
205.45		1.25	NIL				1.25	Sandstone : Core Loss 205.45
	206.70							Core Nil 206.70
206.70		1.55	0.60		207.30		0.60	Sandstone : Same as above 207.30
	208.25						0.95	Core Loss 208.25
208.25		1.15	0.30		208.55		0.30	Sandstone : Same as above 208.55
	209.40				209.40		0.85	Core Loss 209.40
209.40		1.10	0.40		210.10		0.70	Sandstone : light gray, soft to semi hard semi compact, fine to medium gr. mostly subrounded and mostly silica quartz grains contain carbonaceous layer at top 210.10
	210.50						0.40	Sandstone Core loss 210.50
210.50								

Form 3a

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								SANDSTONE: Same as above
210.5?					210.70		0.20	SANDSTONE: CORE LOSS 211.55
	211.55	1.05	0.20		1		0.85	SANDSTONE: Light yellowish gray, soft, fine to medium, few coarse gr, mostly subrounded grains, contain some black part and transparent to translucent, mostly silica quartz grains
211.55					211.55 / 211.85		0.30	
	212.60	1.05	0.30		2 / 212.60		0.75	CORE LOSS: SANDSTONE Same as above 212.60
212.60	Run 2.00	1.33			3		0.67	CORE LOSS
							0.30	CLAYSTONE, Light gray with lenses of sand 213.5[illegible]
					4		0.59	SILTSTONE Clayey, light gray, Contains fragments of carbonaceous matter at places. Slickensided at few places 213.57
	214.60						0.44	CLAYSTONE (Recovered in the next run) SAME AS BELOW 214.16
214.60	Run 1.50	1.50			5		1.50	214.60 CLAYSTONE Light gray, slightly silty. Contains few fragment of carbonaceous matter. Rounded white 1-2 mm size grains scattered throughout the rock. At few places slickensided
	216.10				6			
216.10	Run 3.05	1.80			7		1.25	216.10 CORE LOSS
	219.15				8 / 9		1.80	217.35 SANDSTONE, Light gray, friable, fine to coarse grained. Poorly sorted. Mostly subrounded grains. More than 90% quartz grains. At places contains fragments of carbonaceous matter
219.15	Run 1.55	[illegible]					0.25	219.15 CORE LOSS
					0		0.95	219.40 SILTSTONE, Dark gr[illegible], Contains thin laminations [illegible] carbonaceous matter. Hard, compact [illegible] the bottom.
	[illegible]				1		0.35	[illegible].35 SANDSTONE Light gr[illegible] hard, compact, [illegible] %. subrounded [illegible] quartz grains [illegible] siliceous [illegible] About 1% unidentifiable dark [illegible] 2[illegible]
					2			

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
220.70	221.75 (Run 1.05)	NIL			1		1.05	CORE LOSS (220.70–221.75)
221.75	222.75 (Run 1.00)	NIL			2		1.00	CORE LOSS (221.75–222.75)
222.75	223.75 (1.00)	0.50			3		0.50	SANDSTONE, Friable, light gray, Fine to coarse grained. Poorly sorted. Mostly subrounded. Finer grains subangular. Dominantly quartz grains. About 5% dark grains probably of carbonaceous matter/Shale (222.75–223.25)
							0.50	CORE LOSS (223.25–223.75)
223.75	224.80 (1.05)	NIL			4		1.05	CORE LOSS (223.75–224.80)
224.80	225.80 (1.00)	NIL			5		1.00	CORE LOSS (224.80–225.80)
225.80	226.80 (Run 1.00)	NIL			6		1.00	CORE LOSS (225.80–226.80)
226.80	228.30 (Run 1.50)	0.60			7		0.60	SANDSTONE. Friable, light gray, Fine to coarse grained. Poorly sorted. Mostly subrounded. Finer grains subangular. Dominantly quartz grains. About 5% dark grains, probably of carbonaceous matter/Shale (226.80–227.40)
					8		0.90	CORE LOSS (227.40–228.30)
228.30	229.85 (Run 1.55)	0.45					0.42	SANDSTONE. Friable, gray, Fine to coarse grained. Poorly sorted. Grains mostly subrounded. Finer grains subangular. Dominantly quartz grains. 5 to 10% dark grains probably of carbonaceous matter/Shale (228.30–228.72)
					9		1.10	CORE LOSS (228.72–229.82)
							0.03	SANDSTONE. Muddy. Carbonaceous, with thin laminations of coal and carbonaceous matter. Finer to coarse mostly subrounded quartz grains in a muddy matrix. Pyritic. Compact (229.82–229.85)
229.85	232.00 (Run 2.15)	2.10			0		0.05	CORE LOSS (229.85–229.90)
					1		2.10	CLAYSTONE, Gray, grades into light bluish gray. Fine grained. Hard, compact, silty. Carbonaceous ... (229.90–232.00)
					2			

DRILL-HOLE NO UAT-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1			
232.	RUN 1.05	1.05			2		1.05	CLAYSTONE Light bluish gray, At places slickensided Contains scattered rounded grains of 1–2 mm size Slightly silty. At places rooted. 233.05
233.05	RUN 2.80	2.80			3		1.55	SANDYCLAYSTONE Medium gray, Semi hard, Semi compact. Sand fine grained mostly subrounded. Massive. Rooted. Contains some carb debres at places silty. 234.60
					4		1.25	SANDSTONE Light gray, semi hard, semi compact. Fine to medium mostly rounded grains. Contains carbonaceous laminar bedding at places clayey. 235.85
235.95	RUN 3.05	2.15			5		0.10	CORE LOSS 235.95
					6		0.90	CORE LOSS Probably Sandstone 236.85
					7		0.40	SANDSTONE Med gray, Semi hard, Semi compact, Clayey Fine grained mostly subrounded. Contain carb laminations at top 237.25
							0.60	SANDYCLAYSTONE Med gray, Semi hard, Semi compact, more sandy at top. Sand fine grained, mostly subrounded Contains fine Carb laminations 237.85
					8		1.15	SANDSTONE, Med gray, Soft to semi hard, semi compact. Fine to medium grained, subangular to subrounded. Flaser & lenticular and also laminar bedding Sometimes clayey 239
239	RUN 3.05	1.80			9		1.80	SANDSTONE Light gray, soft fine to medium grained, subangular to subrounded. Clayey, Contains carbonaceous debris at places 240.80
					0			
					1			
					2			

Form 3a

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DRILL-HOLE NO. UAT-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					240.80			
		1.80			1		1.25	CORE LOSS
	241.05							240.80 / 241.05
241.05							0.17	MUDSTONE, Brownish gray, Compact
	RUN 1.50				2		0.22	SANDSTONE, Friable, Light gray Subangular fine grained. Dominantly quartz
							0.11	SANDSTONE, Hard, Compact, Light gray. Fine to medium, Subrounded to subangular dominantly quartz grains About 5% dark unidentifiable grains
		0.50					0.09	MUDSTONE, Brownish gray, Compact
					242.55		0.05	SANDSTONE, Light gray, Friable fine grained Dominantly subangular, quartz grains. Few thin laminations of carbonaceous matter which is at places pyritic
	242.55						1.00	CORE LOSS
243.55								242.55 / 243.55
	RUN 1.55	NIL			4		1.55	CORE LOSS
245.10	245.10				5			245.10
	RUN 1.45	0.70					0.70	SANDSTONE, Friable, gray Fine to coarse grained. Coarse grains less Mostly subrounded Fine grains subangular. Dominantly quartz grains About 5% dark unidentifiable grains, probably carbonaceous matter/Shale. Slightly clayey
	246.55				6		0.75	CORE LOSS
246.55								246.55
	RUN 1.60	NIL			7		1.60	CORE LOSS
248.15					8			
	RUN 1.20	0.65					0.65	SANDSTONE, Friable, light gray, Fine to coarse grained. Poorly sorted subrounded Finer grains subangular. Dominantly quartz grains. 1-2% dark unidentifiable grains, probably of carbonaceous matter/shale
	249.35				9		0.55	CORE LOSS
249.35								249.35
	RUN 1.15	0.50			249.85 0		0.50	SANDSTONE, Friable, light gray, Fine to medium grained Poorly sorted medium grained. Mostly subrounded. Few fine grains subangular. Dominantly quartz grains. About 1-2% dark unidentifiable grains, probably carbonaceous matter/Shale
	250.50						0.65	CORE LOSS
					1			249.85 / 250.50
					2			END

DRILL-HOLE NO: UAT-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					0.0			ALLUVIUM - SILTY CLAYS: Pale yellowish brown, 10YR 6/2, Alluvium slightly micaceous.
					1		2.00	
					2			Alluvium - silty clay: Same as above
					3		2.00	
					4			Alluvium: Contains some medium grains of Quartz. Same as above
					5		2.00	
					6			Alluvium: Same as above
					7		2.00	
					8			Alluvium: Same as above
					9		2.00	
					10			
					1			
					2			

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH 10 METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					0			ALLUVIUM :-
								SILTY CLAY :- micaceous
							2.00	
					12			12
								SILTY CLAY.
							2.00	Same as above
					14			14
								SAND SILTY CLAYEY :- Very light gray N-8, fine grained sand, rounded, Gypsiferous, Fe Mg minerals 1-3%
							2.00	
					16			16
							2.00	Same as above
					18			18
								SANDY SILT :- Dark yellowish brown 10YR 2/2
							2.00	Same as above
					20			20

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					20			ALLUVIUM
								SANDY SILT:- (Sand proportion decreases
					1		2.00	
					22			22
								SILTY CLAY.-
								Medium dark gray N-4, micaceous.
					3		2.00	
					24			24
								SILTY CLAY:-
								Same as above
					5		2.00	
					26			26
								SILTY CLAY:- Medium dark gray N-4
								Same as above
					7		2.00	
					28			28
								SANDY SILT:
								Same as above
					9		2.00	
					30			30
					1			
					2			

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					30			ALLUVIUM
					1		2.00	SILT:- Medium gray N5, other properties same as above.
					32			32
					3		2.00	SILT:- Medium dark gray N-4. slightly micaceous. Same as above
					34			34
					5		2.00	SILT:- Colour, same as above, no mica is seen, Otherwise, Same as above
					36			36
					7		2.00	SILT:- Same as above
					38			38
					9		2.00	SILT:- same as above
					40			40
					1			
					2			

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH IN METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					40			Alluvium : SILT:-
							2.00	Same as above.
					42			42
							2.00	SILT:- Same as above
					44			44
							2.00	SILT:- Same as above
					46			46
							2.00	SILT:- Same as above
					48			48
							2.00	SILT:- Same as above
					50			50

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					50			ALLUVIUM.
					1		2.00	SILT:- Medium dark gray N-4, other units same as above.
					52			
					2			
					3		2.00	SILT:- Same as above
					54			
					4			
					5		2.00	CLAYEY SILT:- Same as above
					56			
					6			
					7		2.00	CLAYEY SILT:- Same as above
					58			
					8			
					9		2.00	SILT:- Medium dark gray N-6, slightly micaceous other units same as above.
					60			
					1			
					2			

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH 60 METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1		2.00	ALLUVIUM CLAYEY SILT: Medium dark gray N-4
					2			62
					3		2.00	SAND: - Dark gray N-3: Fine grained (FA) rounded, poorly sorted, quart 80-90 %, heavy minerals up to 10 %, slightly micaceous.
					4			64
					5		2.00	SILTY SAND: Silt increases. otherwise same as above
					6			66
					7		2.00	SAND SILT: The silt proportion increases. otherwise same as above
					8			68
					9		2.00	SILTY SAND: - Dark gray N-3. same as above
					70			70
					1			
					2			

Form 3a

-493-

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	THICKNESS	LITHOLOGIC DESCRIPTION
					70	2.00	ALLUVIUM SILTY SAND: Same as above.
					72	2.10	SILTY SAND: Dark gray N: Some limestone cuttings containing some forams. otherwise same as above.
74.10	75.15 (1.05)	1.05	100%		74.10	1.05	LIMESTONE:- Colour, light bluish gray 5B 7/1. Biomicrite, (calcilutite,) highly fossiliferous, mainly forams, including Nummulites, alveolina and some unidentified species. Fossils, both intact and fragmental and distributed uniformly in the unit, there is a zone of 8 cm thick, 75 cms from the top of the unit which is dark coloured, pyritic and glauconitic. The basal part of the unit is more fossiliferous than the upper part. 80 cms from the base towards the top the limestone becomes more more fossiliferous and sandy. The fossils are fragmental. The limestone gradually grades down into claystone.
75.15	78.20 (3.05)	2.95				1.14 [?]	
						0.26	CLAYSTONE:- Colour dark gray N3, Fractures irregularly, the unit contains lensoid laminations, mainly in the basal part: these SANDstone lam. contain abundant shell fragments, pyrite and traces of glauconite. The unit grades downward into sandy limestone.
						0.32	LIMESTONE:- Colour dark gray N3, calcirudite type, highly fossiliferous. Fossils are mainly forams, including Nummulites and alveolina, bivalves are also present. Fossils are mainly fragmental, Fossils are uniformly distributed but abundant in the lower part, the limestone is bioturbated, the unit gradually changes downward into fine grained sandstone.
						1.03	SANDSTONE:- Colour, same as above, the above 06 cms of the unit is sandy siltstone and grades downward into sandstone. The sandstone is finegrained (fl) rounded and well sorted, the sorting becomes ill where it is burrowed. Quartz up to 80% glauconite predominant. It contains up to 3 cm sandy L.St interlaminations only in the middle part. The contact with the lower unit seems to be sharp.
					78.10	0.20	SHALE:- Colour, same as above, the unit is mainly shale, sandstone interlaminations, ratio is shale 70% sandstone 30%. Laminations dominant in the upper part. Shale is silty and pyritic. Sandstone is VFL, well sorted, rounded, Quartz 60%, heavy minerals present. 78.10
						0.10	CORE LOSS 0.10 78.20
78.20	79.69 (1.49)	1.39	93.88%		78.30	0.10	CORE LOSS 0.10 78.30
						0.64 [?]	SILTSTONE:- Colour, dark gray N3, Qtz. 50%, heavy minerals present, fossil (shell frag.) pyritic; grades into claystone.
						0.95	CLAYSTONE, Colour, same as above, silty, siderite nodules present, pyritic. The plant fossils (leafs) present, replaced by pyrite. 79.69
79.69	Run 1.46	1.46				0.31	CLAYSTONE: Same as above and grades downward into sandy limestone. 80.[?]

Run continued.

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES (80)	THICKNESS	LITHOLOGIC DESCRIPTION
79.69	81.15 (1.46)	1.46	100			0.63	LIMESTONE:- Colour, same as above, sandy, highly fossiliferous. fossils are mainly forams, including Nautilodes, alveolina, some bivalves. Fossils are fragmental shells, Fossils increase from top to bottom, abundant in the middle part and decrease at the base, unit grades in M. Stone.
					1	0.46	MUDSTONE:- The sand increases towards the base, The clay is hard, compact, gritty and contains fossil frags. fossiliferous and pyritic. The sand is fine grained, rounded, well sorted, Quartz 60-70, heavy minerals upto 30% and highly glauconitic. A 3 cm thick unit in the mid. part is crossbedded. 81.15
81.15					81.23		CORE LOSS 0.08 — 81.23
81.15	83.05 (1.90)	1.82			2	1.82	SHALE:- Colour, dark gray N3, F. grained inter laminations present in the top 15 cms having thickness upto 1 cm. The shale is hard, compact, plant fossils, partially replaced by pyrite are rarely present. The Inter-laminated sandst. is medium light gray N5, V.F.L. silty, subrounded quartz 60-70% heavy minerals 10%, moderately sorted highly pyritic. Siderite lenses present in upper part. Burrows are occasionally present.
83.05	84.30 (1.25)	1.25	100		3	0.26	SILTSTONE:- Colour, dark gray N3, hard, compact, clayey, in the basal part it becomes sandy, the sandy part is cross bedded, Quartz more than 70%, heavy minerals 1-3% Glauconitic, pyritic rarely fossiliferous.
					4	0.99	CLAYSTONE: colour, same as above, slightly silty, rarely fossiliferous slightly carbonaceous; pyritic, sideritic nodules uniformly present, Grades into silt stone.
84.30	87.35 (3.05)	1.75	95.79%			0.40	SILTSTONE:- Same as above the claystone, lower few cms become more sandy and grades downward into Sandstone.
					5	0.45	SANDSTONE SILTY, Dark greenish gray 5G6/1, highly foraminiferal, few glauconitic pellets present, rarely pyritic Forams upto 1.5 cms in dia.
					6	0.90	SANDSTONE:- Colour, same as above, very fine (VFG) rounded unsorted, Quartz 60-80%, fossiliferous (shell fragments) fossils generally abundant in the upper part than the rest of the sequence, heavy minerals %, rarely glauconitic. In the basal part some silty and clayey lenses are present. 86.05
					86.05 / 7	1.30	CORE LOSS 87.35
87.35	90.35 (3.0)	1.64	54.66%		8	1.36	CORE LOSS — SANDSTONE:- Medium light gray N6, fine grained, subrounded, well sorted, Quartzitic, heavy minerals 2-3%, becomes muddy towards base and grades downward into siltstone.
					88.71	0.63	SILTSTONE, Medium dark gray N4 - dark gray N-3, sand filled in burrows, occasional siderite nodules/bands, few thin small patches of pyrite and at some places disseminated.
					9	0.50	SANDSTONE:- Medium dark gray N4, fine grained, subrounded well sorted. Quartz 90% Fe mg minerals up to 10%, occasional small fossil fragements.
	90.35				90	0.71	

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					0		0.07	
90.35	93.40 (3.05)	3.05	100%		1		2.98	SANDSTONE:- same as above with some siltstone probably highly burrowed siltstone filled with overlying sand. Grades down into clay stone.
					2			CLAYSTONE SILTY:- dark grey N1-3 fossiliferous, some burrows upto 5 mm, sideritic, pyritic pyritic patches at places. Siderite nodules slightly calcareous 50 cms black material is present.
93.40					3			
					4		0.70	CLAYSTONE:- Greenish grey 5GY 6/1 to Dark grey N3, hard compact, highly glauconitic, fossiliferous, contains some silty interbeds.
							1.20	CLAY STONE:- Dark grey N3, Hard, compact. Siderite nodules very common, calcareous pyritic, Black material is present fossiliferous, grades into siltstone.
93.40	96.45 (3.05)	1.30	42.62%		94.70			94.70 CORE LOSS
					5		1.75	
					6			96.45 SILTSTONE:- Medium dark grey N4, sandy, hard compact fossiliferous, slightly pyritic, grades down into sandstone.
96.45	98.00 (1.55)	1.55	100%		96.45		0.30	SANDSTONE:- Medium light grey N6, fine grained, rounded, poorly sorted, sandy, fossiliferous, Quartz 60-80%, heavy minerals 1% upto 1%, calcareous.
							0.15	
98.00					7		1.07	LIMESTONE:- Medium light grey N6 (dry) medium dark grey N5 (wet), fossiliferous, shells brachiopods and pelecypodes, small crystallin calcite is also present, few small black coloured Fe-Mg minerals grains at some places 1-2%.
98.00	99.45 (1.45)	0.73	50.34%		8		0.46	SHALE/CLAYSTONE:- Medium grey N5, burrowed, burrows filled sand, contains nodules of L.S. same as above and below, contains immediately fossil shells, middle part is more sandy and loose. Probably the core loss is at this point.
					98.73		0.72	LIMESTONE:- Same as above the shale.
99.45	101.05 (1.60)	0.91	56.87%		9			98.73 CORE LOSS 100.14
					100.14		0.69	SILTSTONE SANDY:- Dark grey N3, Lenses of Quartz sand, sand is clear fine grained, well sorted.
							0.10	SANDSTONE:- Light olive grey 5Y 6/1, Fine grained, well sorted, few Coarse grained Quartz, Dark green coloured grains, about 3% Fe-Mg mineral grains.
101.05					1		0.60	SILTSTONE/MUDDY/SANDY:- Dark green N3, very fine laminations of Sand stone, Quartz sand grains, fine, well sorted, clear, siltstone more calc. Silicaceous, pyritic.
							0.21	
					2			

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					100			
101.05	102.45 (1.40)	0.32	71.43%		102.13		1.08	CORE LOSS SHALE:- Silty with thin laminations 1-3 mm of sand, medium light gray N-6, sand is medium to coarse grained, poorly sorted, Two lenses of pale yellow coloured nodules of siderite.
102.45	102.67	0.22	100%				0.14 0.14 0.22	SHALE:- Dark gray N-3 with thin laminations <1 mm of sand fine-grained quartz with few small patches (1-2 m) of pyrite at places found disseminated. Slong bedding / plane at two places thin laminae of carbonaceous matter observed. SHALE:- with thin laminae, same as above. 102.67
102.67	105.15 (2.48)	1.25	50.40%		103.90		1.23	CORE LOSS 103.90
					4		0.65	SANDSTONE:- Greenish gray 5 G 6/1, fine grained, sub rounded, well sorted, quartz 80-90%, dark Fe Mg minerals 10-15%.
							0.25	SANDSTONE:- Same as above with siderite bands up to 1 cm in the upper part, in the middle few laminae 1-5 thick.
					5		0.35	SILTSTONE/SHALE and SANDSTONE:- interlayered in 2-5 mm layers, sand and silt is almost in equal proportion.
105.15	106.75 (1.60)	1.60	100%		6		0.65 0.95	SILTSTONE:- (CLAYEY) with irregular thin laminae of fine sand, probably flaser bedding, cross bedded, medium dark gray N-4 (dry), small pale yellow nodules of siderite, 0.2 to 1 cm thick with some small patches of carbonaceous matter (2-3 mm in width). and small (1-2 mm patches of pyrite. Lower 10 cm become more sandy and highly fossiliferous, pelecypodes (bivalves) patches of pyrite, rotten and carbonaceous matter (1-2 mm) grades down into sandstone. SANDSTONE:- Medium dark gray N4, fine grained, sub rounded, well sorted, few small nodules of siderite. 106.75
106.75	107.40 (0.65)	NIL	0%		7		0.85	CORE LOSS probably SANDSTONE. 107.40 " " 107.60
107.40	107.60 (0.20)	0.95	78.26%		107.60		0.20 0.25 0.31	SILTSTONE:- Medium dark gray N-4 (dry) probably rocks laminated with fine clayey silt laminae 1-2 mm. CLAYSTONE:- Medium dark gray N4, foraminiferal, the upper 15 cms is highly foraminiferal (forams. discoidal, chambered test.)
108.55	111.60 (3.05)	0.80	26.22%		8		0.39	LIMESTONE:- SANDY, medium light gray N6 with about 5% dark mg mineral grains, sparry calcite grains, few forams, seen both discoidal / oblong both recrystallized structure poorly preserved. 108.55
					9		2.25	CORE LOSS IN SANDSTONE:. 110.80
					110.80		0.40	SANDSTONE:- Medium gray N5, fine grained, few coarse grains also observed, sub rounded, moderately sorted, occasional glauconite grains also observed, at places abundant.
	111.60				11.0		0.40	SANDSTONE:- with few shale bands irregular in shape 0.5-1.0 cm, lower 10 cms is almost shale, shale is medium dark gray N-4 to dark gray N-3.
					2			

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH IN METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1			
111.60	114.60 (3.0)	1.62	54%		2		0.52	SANDSTONE:- M·D·G·N4 to N3 F·G· occasional quartz grains. At 2 cms from top a shale band with 1-2 mm irregular laminae of sandst. Fe mg min. upto 5%. Occasional glauconite, carb. specks along bedding plane.
							0.56	SHALE:- M·D·G·N-4 - N3 · with sand laminations upto 1 mm or less along the bedding plane. Burrowed, horizontal pyritised sand; slightly carb. woody plant matter replaced by pyrite. Sand is V·F·G. silty at 3 60-70% heavy mineral 5-10%. Shale: sand ratio 95:5. also uniformly distributed becomes more sandy towards the base.
					3		0.54	
					113.22			SHALE, SANDSTONE interlaminated; Shale is dominate over sandst general ratio is 75:25 but in the middle part 60:40. Shale medium gray, pyritic, rarely glauconitic, slightly silty burrowed, with horizontal and vertical, sand is medium grained (mL) subrounded moderately sorted, Quartz upto 70 silt 20-30, Glauconitic, few Fe-mg 113.22
					4		1.38	CORE LOSS 114.60
114.60	117.60 (3.0)	2.40	80%		5		0.60	CORE LOSS Probably in sandstone. 115.20
					115.20			SILTSTONE - Medium dark gray N/4 Thin (<1 mm) laminations of shale in minor amount silt shale ratio 95:5. Shale laminations slightly more in the basal part. Rare shell fragments observed. Slightly more in the middle part. Lower 55 cms. becomes more sandy, sand is fine grained, cross bedded, rare Silica nodules. 3×5 cms at 38 cms from base. Compression Slikensided present.
					6		1.68	
					7		0.57	SANDSTONE - Medium dark gray N-4 highly silty in the upper half, but lower half grades into Sandstone. Compression slikensided, one Silica nodules 4-5 cms present; highly fossiliferous.
							0.15	SHALE. Dark gray N-3 Inbedded shale/sandstone 60 - 40 Pyritic, Fossiliferous
117.60	120.65 (3.05)	2.85	93.44%		117.80		0.20	CORE LOSS. Probably in Siltstone.
					8		0.62	SILTSTONE - Medium dark gray - N-4. Sandy, cross bedded in middle part, pyritic, rarely fossiliferous (Shell fragments. Grades downwords in sandstone.
					9		2.23	SANDSTONE - Colour same as above., fine grained. (F,1) rounded, up to moderately sorted. Quartz 50% Fe, mg aminoral grains present; highly glauconitic, At places Sandstone becomes medium grained. highly fossiliferous. (generally broken shells) Fossil distribution is not uniform. where it is fine grained fossils are not broken. Fossils are forams, bivalves and some other species. Glauconitic, Slightly cross bedded and contains some shely fragments.
					120			
120.65					1			
					2			

Form 3a

DRILL-HOLE NO UAF2

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES (120)	THICKNESS	LITHOLOGIC DESCRIPTION
						0.15	SANDSTONE_ Same as above
120.65	2.00	2.0	100%		1	1.0	SANDSTONE_ Greenish grey 5GY 6/1. Fine grained. (V.FL) Quartz 60% heavy minerals present, Glauconitic, fossiliferous. fossil distribution is not uniform.
					2	0.55	SILTSTONE- Shale interbedded. Colour same as above. The siltstone shale ratio 60-40 - fossiliferous; fossils are forams & other shell fragments, siltstone is sandy, Pyritic and slightly carbonaceous
	122.65					0.30	SHALE_ Medium dark gray- N-4. Flaggy - silty, calcareous & sideritic, pyrite, slickensided
122.65	1.05 / 123.70	1.05	100%		3	1.05	SHALE- Shale same as above only in the upper 50 cms siderite nodules are present, while they are absent in the lower half. In the lower 0.20 cm it contains sandy bands which is highly fossiliferous (broken shells of bivalves and forams) highly glauconitic and slightly pyritic
123.70	Run 2.30	1.80	78.26		4	1.45	LIMESTONE light grey N/7, Sandy fossiliferous, upper 0.35m becomes more sandy, dominantly forams (Assilina and Numulites, evenly distributed. Pyritic, Sparsely glauconitic, probably few thin roots?
					5 / 125.50	0.35	LIMESTONE medium dark grey N/4, sandy, highly fossiliferous, generally broken Bivalves & forams. slightly Pyritic 125.50
	126.0					0.50	CORE LOSS 126.00
126.0	0.80 / 126.80	0.55	68.75%		6 / 126.55	0.55	SANDSTONE moderate olive grey 5Y 5/2, Very fine (VFL), rounded well sorted, loose Quartz >95% heavy minerals up to 5%. ratio of heavy minerals increase towards base, Ferrugenous coated grains. 126.55
						0.25	CORE LOSS probably in sand stone 126.80
126.80	(2.95)	1.65	55-93%		7	1.30	CORE LOSS. 128.10
					8 / 128.10	0.54	SANDSTONE med. light grey N/7, Very fine (VFL) hard, becomes more silty towards base. highly carbonaceous at base, ill sorted. quartz 90% at the top, gradually decreases towards base. fossiliferous, broken shells of bivalves and forams present. Siderite Nodules abundent at the base. Contact with the underlying coal/carb sh. is sharp. 128.64
						0.08	COAL Lignitic, Silt mixed with coal, highly pyritic/carby shale.
	129.75				9	1.03	SHALE dark grey N/3 sand lenses present except in top 10 cms. Sand laminae almost evenly distributed shale, Sand stone ratio 85:15. In the middle some carbonaceous specks present. At the bottom it becomes silty. Shale is hard flaggy, Pyritic, fossiliferous. plant fossils replaced by pyrite
129.75					130 / 130.89	1.14	SANDSTONE, med. dk grey N/4, to dk.gy. N/3, fine grained (Fg) rounded moderately sorted. quartz 90% heavy minerals <1% Pyritic. lower half is more carbonaceous and Pyritic. sand stone is loose.
					1		
					2		

Form 3a

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					131.15		0.26	SANDSTONE medium dark grey N/5 fine grained (fl) rounded well sorted to moderately sorted quartz 790% heavy minerals 1%, carbonaceous, silty & and calcareous. 131.15
	= 3.05	1.40	45.90%		2		1.65	CORE LOSS IN SANDSTONE.
132.80								132.80
132.80	(3.05	1.00	32.78%		3		1.0	SANDSTONE SILTY. medium dark grey N/5 fine grained (FU) rounded, moderately sorted quartz 90-95% heavy minerals 1%, loose, carbonaceous, silty, contains occasional siderite nodules. It also contain coaly material and woody material & pyritic 133.80
					4			CORE LOSS IN SANDSTONE
	135.85				5		2.05	135.85
135.85					6			
	= 3.0	0.52	17.33%		7		2.48	CORE LOSS
	138.85				8			138.33
					138.33		0.52	SANDSTONE SILTY. medium dark grey N/5 fine grained (FU) medium size grains up to 30%, ill sorted quartz 70% Calcareous, carbonaceous, woody material present. Pyritic, siderite nodules present at top and base of the Unit up to 4cms thick. heavy minerals rare 138.85
138.85					9			
	(1.05)	NIL					1.05	CORE LOSS IN SANDSTONE 139.90
139.90					140			
	0.70	NIL					0.70	CORE LOSS IN SANDSTONE
	140.60							140.60
140.60					1			
					2			

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
140.60	= 1.30	0.20	15.38%		140.80		0.20	SANDSTONE interlayered with siderite lenses about 2 cms thick and nodules up to 4 cms long and 2 cms in width. Sandstone light grey. Very fine grained (VFL) rounded moderately sorted. qtz 90% heavy minerals 1% Loss c.
141.90							1.10	CORE LOSS IN SANDSTONE. 140.80 141.90
141.90	= 1.85	1.85	100%		2		0.75	SANDSTONE medium grey N/5, greenish grey 5GY 6/1. fine grained (FL) subrounded poorly sorted. Qtz 50%, highly glauconitic porous, argillaceous. Very hard. Compact. Rarely fossiliferous. broken fossil shells. Sid. nod. grades down into Silty S.S.
143.75					3		1.10	SANDSTONE SILTY. light olive grey 5GY 6/1 fine grained (FL), subrounded, poorly sorted, qtz 90% grades downward into argillaceous sand stone. rarely glauconitic sparsely carbonaceous, slightly fossiliferous. Broken shells silty matrix increases downwards. Lower 28 cms is almost silt stone. 143.75
143.75	1.75	0.96	54.85%		4		0.50	CORE LOSS IN SANDSTONE 144.25
144.25					144.25		0.50	SANDSTONE moderate yellowish brown, 10YR 5/4, V. fine grained subrounded subangular up to 20% well sorted quartz 90% rare heavy minerals, hue due to ferrugenous coating. 144.75
144.75					5		0.29	CORE LOSS 145.04
145.04					145.04		0.46	SILTSTONE medium light grey N/6 fossiliferous, bivalves, foramns and shell fragments. Slightly Pyritic carbonaceous. Woody matter present. Siderite nodules at base.
145.50	(0.60)	0.49	81.66%		145.99		0.49	CLAYSTONE med. dk gy. N/4. Pale yl. brn 10YR 6/2 inter bedded. dk gy dominate over P.Y.B. Ratio 70:30, shale, pyritic, carbonaceous burrowed, filled with sand. Fine to med sand st. pockets present. 145.99
146.10					6		0.11	CORE LOSS 146.10
					146.27		0.17	CORE LOSS 146.27
	(1.80)	1.63	90.55%		7		1.63	CLAYSTONE medium dk. gy. N/4, Pale yellowish brn, 10YR 6/1 the dark coloured claystone is occasionally shally Pale yel. brn claystone dominate, over the dark coloured ratio 60:40 It is hard, compact, pyritic occasional thin sandy silt bands present. slightly carbonaceous. Top 10 cms burrowed, filled with yellowish brown clayey material burrows up to 8 cms in dia. 147.90
147.90	0.45	0	0%		8		0.45	CORE LOSS 148.35
148.35							1.80	CORE LOSS 150.15
	2.55	0.75	29.41%		9			CLAYSTONE/MUDSTONE: interbedded. med. gy N/5 greyish orang Pink 5YR 7/2. ratio 60:40. claystone breaks with plaior & rounded surfaces. It is slightly carbonaceous slightly Pyritic. Plant fossils present contains plant (woody material partly carbonized & partly Pyritized. Mudston contains clay 50% sand 40%, silt 10%. SAND is clayey hard Compact fossiliferous, (broken shells) glauconitic, porous poses look like the cavities of glauconite.
150.90					150		0.15	
					150.15		0.60	SILTSTONE CLAYEY, medium grey N/5, The clay proportion decreases downwards, At places in the middle part it becomes Sandy. last 0.08 m becomes very hard, compact fossiliferous. Sandy silt stone. Slightly carbonaceous, pyritic. In the basal part sandy siltstone is slightly carbonaceous. Pyritic, glauconitic and contains well preserved bivalves one specimen is observed.
					1			
					2			

Form 3a

-501-

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					150			
150.90					1		1.36	SANDSTONE Silty, lt gy N/7, V. fine grained (VFL) rounded (angular and subangular up to 25%). Poorly sorted. qtz >90, heavy mineral, 1% (mostly green coloured epidote / idocrase) slightly Pyritic and occasionally micaceous. rarely carbonaceous. occasional clay bands < 1mm, which are some times carbonaceous. At 52 cms from top a 20 cms thick band of hard compact sand stone present which is highly foraminiferal. grades down into siltstone.
	3.05	2.40	78-88%		2		0.60	SILTSTONE lt gy N/7 hard compact, occasionally Sandy & Pyritic, occasionally carbonaceous. grades down into sandstone fossiliferous.
					3			SANDSTONE lt gy N/7, fine grained Subrounded, (rounded upto 40%) Poorly sorted, qtz 45-90%, less in the upper part gradually increases towards base. upper part is highly fossiliferous, (bivalves and forams generally fragmental).
					153.30		0.65	CORE LOSS
	153.95							153.30 153.95
					4			
					5			
					6			
					7			
					8			
					9			
					0			
					1			
					2			

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					150			DH: UAT-2R (REDRILLED).
		← NON CORED DRILLING.			1			
					2			
					3			
153.30	153.95	0.65					0.80	SILTSTONE: Medium gray N-5, thinly laminated with very fine OAnd bioturbitic, slightly pyritic, hard and compact, burrowed, fossiliferous, usually plant fossils replaced by pyrite, grades into Sandstone.
153.95							0.15	SANDSTONE CLAYEY:- Medium gray N-5, medium grained (ML) sub rounded, crystalline grains upto 20%, Quartz upto 50%, silt and clay size particles upto 45%, poorly sorted, fossiliferous (foraminifera intact) slightly pyritic 153.95
					4		1.32	CORE LOSS Probably in Sandstone at top of the run.
								155.27
153.95	156.95 (Core 3.00)	CORED DRILLING 1.68			5			SANDSTONE: medium light gray N-5 Medium grained (ML), sub rounded, Poorly sorted, Quartz 50%, Matrix clayey and silty 45% sub rounded, slightly fossiliferous at the top stone calcareous slightly pyritic.
					155.27		6.85	
					6			SANDSTONE: Medium gray N-5 Medium grained (ML) Sub rounded Quartz 90% cross laminated, many thin laminations of carbonaceous shale and carbonaceous material present. Some sand and silt interlations present in the lower part.
	156.95						0.83	
156.95					7		0.32	SANDSTONE:- Medium light gray N-6, fine grained (fL) rounded, well sorted Quartz more than 90%, Fe mg and other dark coloured minerals 10-20% rock fragments present, micaceous, loose and soft.
							1.18	SHALE/SANDSTONE INTERLAMINATED: Medium gray N-5, shale and sandstone interlaminated, slightly carbonaceous, jointed and slightly pyritic. The shale increases in the middle part (i.e from 0.42 - 0.66 m) of the unit. Below this zone the interlaminated sandstone becomes medium grained.
156.90	160.0 (Core 3.05)	2.20			8			
							0.70	SANDSTONE SHALEY:- Medium gray N-5, coarse grained, sub-rounded, poorly sorted, none calcareous, The upper 0.35 m is interlaminated shale and sandstone. The shale gradually decreases down.
					9			
					159.15		0.85	159.15
	160							160.00
					0			
					1			
					2			

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
160 / 160.00	161.85 (1.25)	0.62			160		0.63	Core loss probably in the sand stone at the top of the run.
					160.63		0.62	SAND STONE/shale interlaminated. Medium gray N-5. Sand-stone shale ratio is 70:30; sand stone fine grained but at places it becomes slightly coarse, In sand stone Quartz 60-95%, well sorted to poorly sorted, highly pyritic. shale is medium dark gray N-4. hard, carbonaceous, pyritic, [illegible]
161.25 / 161.85	162.80 (1.55)	1.35					0.97	Shale: Grayish black N-2, highly carbonaceous, pyritic, plant impressions present, rooted, hard, compact, slickensided, shale slightly silty and grades down into silt stone.
							0.38	SILTSTONE: Medium dark gray N-4, Hard, compact, highly pyritic, slightly carbonaceous and rooted. 162.60
					162.60		0.20	Core loss probably in the siltstone. 162.80
162.80 / 162.80	165.85 (3.05)	0.95					0.19	SANDSTONE:- Medium light gray N-6, coarse grained, subangular, well sorted, Quartz more than 90%, heavy minerals less than 1%, hard, compact, pyritic, rooted, slightly carbonaceous.
							0.59	SANDSTONE, SILTY:- Medium gray N-4. muddy, fine grained (wf) moderately sorted, rounded, Quartz 50% pyritic, coaly, carbonaceous. A silica nodule ·06 m wide and ·09 long is present. The nodule is hard compact and heavy. It has very few coarse Quartz grains. At the base of the unit 0.06 m interbedded sand stone shale [illegible] present.
					163.75		0.17	Interbedded silt stone sand stone:- colour, medium gray N-4. Sandstone interlaminated with siltstone, sand stone fine grained (FU). subrounded, moderately sorted, pyritic, coaly, carbonaceous at the top. 163.75
							2.10	Core loss at the base of the run. 165.85
165.85 / 165.85	168.35 (2.50)	1.92					0.12	SANDSTONE:- Medium dark gray N-4. Fine grained (FU). sub-rounded poorly sorted, Quartz 50%, carbonaceous, pyritic A silica nodule about 0.06 x 0.05 m is present.
							1.80	MUDSTONE:- Medium dark gray N-4. Silty, sandy, pyritic few silica nodules present. organic matter present, coaly specks at places, At places interbedded silt and sandstone, nodule bands up to 0.02. 167.77
					167.77		0.58	Core loss probably in the mudstone. 168.35
168.35 / 168.35	170.55 (2.20)	1.75					0.45	Core loss probably at the top of the run in sand stone. 168.80
					168.80		1.75	INTERBEDDED SILT/SAND STONE:- Colour, medium dark gray N-4 to dark gray N-3. Fine grained (FU). Rounded, poorly sorted Quartz 60-90%. In the 1st 0.95 m the sand dominates over silt while in the rest the silt dominates over the sand. Silt gradually increase towards the base. silica band/nodules up to 0.04 m dominant in the lower part.
170.55					170			

Form 3a

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					170			
170.55	172.20 (1.65)	1.65	100%		170.55		1.65	INTERBEDDED SILTSTONE AND SHALE:- Colour, Grayish black N-2. The siltstone dominates the shale, at places the siltstone becomes clayey and in the last 0.35 m it contains thin laminations of very fine grained sand. Siltstone is hard, compact, slightly coaly and pyritic. Shale is fissile, coaly highly pyritic and highly carbonaceous. Sand laminations very thin and fine grained.
172.20	175.25 (3.05)	2.40	78.69%		172.20		1.26	SILTSTONE, MUDDY/SANDY:- Dark gray N-3, thinly interlaminated with fine grained sand, at places pyritic, silica nodules present, slightly carbonaceous. Cross laminated, hard and compact. Grades down into sand stone.
							1.04	SANDSTONE:- Medium dark gray N-4. Interlaminated with shale, carbonaceous material abundant, fine grained (FU) rounded, Quartz 60-70%, heavy mineral present. 174.50
					174.50		0.65	Core loss probably in the sand stone. 175.15
					175.15		0.10	SILICA nodules:- hard compact, contain coarse Quartz grains
175.25	178.30 (3.05)	1.90	62.29%		175.25		0.13	SILLICA NODULES:- Mostly silica nodules upto 0.05 m. other wise same as above.
							0.47	SHALE: M.D.G. N-3. In up 0.05 ms it contains s.st bands. Lower part is almost sandy, silty. Shale is highly pyritic and coaly.
							1.16	SANDSTONE:- Medium dark gray N-4 Medium grained (ML) subangular (rounded upto 40%) moderately sorted, Quartz more than 90%, heavy minerals less than 1%. Rock frags (shales and silt present). 177.01
					177.01		1.15	178.16
					178.16		0.14	Silica nodules, colour, same as above, very hard compact, upto 6 cms in length, med. grained Qtz grains and organic matter present.
178.30	181.30 (3.0)	0.40			178.30		2.60	Core loss probably in the Sand stone at the top of Run. 180.90
					180.90		0.40	SANDSTONE:- Medium dark gray N-4, Interlaminated with shale coarse grained (CL) subangular, Quartz 50%, cementing material upto 40%, calcareous, heavy minerals less than 1%, rosy quartz present. Pyritic, slightly carbonaceous. One silica nodule of about .05 m thick present at the top of the unit. 181.30
181.30					181.30			
					182			

Form 3a

-505-

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					180			
181.30					1			
							0.22	SANDSTONE:- Medium gray N-5, medium grained (mL) rounded sub-angular upto 30%, moderately sorted, heavy minerals present, becomes finer towards the base, irregular layer of silty material, slightly carbonaceous and pyritic, contact with the underlying silty claystone is sharp.
					2		0.87	
							0.36	CLAYSTONE SILTY:- Dark gray N-3, hard compact, there is 0.4 m shale at the top of the unit. At the top the unit is also shaley, contains irregular, discontinuous sedositic or silty nodules & bands. These bands dominant towards the base. Grades down into shale.
	181.30				182.75 3		1.60	
	184.35 (C 3.05)	1.45	47.54%		4			SHALE:- Dark gray-N-3, highly carbonaceous, pyritic, fissile, contains some sand bodies.
								182.75
								Core loss at the bottom.
								184.35
184.35							0.36	MUDSTONE:- Dark gray N-3, sandy, silty, some sandy and silty laminations present, upper part is almost claystone, slightly pyritic and carbonaceous.
					184.71 5			184.71
	187.40 (C 3.05)	0.36	11.80%				2.69	CORE LOSS.
					6			
					7			
187.40							1.95	187.40
					8			CORE LOSS probably in the sandstone.
					9			189.35
					189.35		1.05	SANDSTONE:- Medium light gray N-6, coarse grained, subrounded (rounded upto 30%) well sorted, Quartz more than 90%. Ferromagnesian minerals less than 1%, Rock fragements present, slightly pyritic, Rosy quartz observed, Ferruginous coating is common, becomes finer towards the base.
	RUN 3.00				190			
	CORE 1.05							190.40
190.40								
					2			

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					190			190.40
190.40	193.45 (3.05)	1.0	32.79%		1 2		2.05	192.45 SANDSTONE: medium grained (MG) The proportion of Fe Mg and other dark coloured mineral increase, otherwise same as above the core loss.
193.45	196.50 (3.05)	1.10	36.06%		192.45 3 4 5		1.95	Core loss probably at the top of the run. 193.45 195.40 SANDSTONE, same as described from mid 189.35 to 190.40.
196.50	199.55 (3.05)	0.85	27.86%		195.40 6 7 8		1.10 2.30	196.50 Core loss probably in the same sandstone. 198.70
199.55	202.60 (3.05)	0.55	18.03%		198.70 9 200 1 2		0.85 2.50	SANDSTONE: Becomes slightly finer, otherwise same as above. 199.55 Core loss probably at the top of the run. Ran continued.

DRILL-HOLE NO UAT2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					0.00			
					202.05		0.55	CORE LOSS 202.05 SANDSTONE SAME AS ABOVE
202.60	205.65 (3.05)	0.00	0%		202.60		3.05	202.60 Core loss, probably in the same sand stone
205.65	208.70 (3.05)	1.10	36.06%		205.65		1.45	Core Loss probably in the sand stone. 205.65
					207.60		1.10	207.60 SANDSTONE:- Light gray N-7, Fine grained (FU) silty, rounded, well sorted, Qtz more than 70%, Ferg minerals occasional, slightly pyritic, carbonaceous, friable, organic matter present, irregular carbonaceous bands present throughout the unit and constitute 30 - 40% of the unit.
208.70								208.70
208.70	211.70 (3.00)	1.40	46.67		209		1.60	Core loss probably at the top of the core in the loose sandstone.
					210.30		1.40	210.30 SANDSTONE:- Medium light gray N-6, medium grained (MG) rounded, well sorted, Quartz more than 90%, Ferg minerals and other rocks fragments less than 1%, occasional forams present.
211.70					211			

DRILL-HOLE NO: AT-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					210			211.70
211.70	214.75 (3.05)	0.95	31.15%		213.80		2.10	Core loss probably in the sandstone at the top of the run.
							0.45	213.80 SANDSTONE: Becomes coarser, otherwise same as above the core loss.
214.75	217.80 (3.05)	Nil	0%				3.05	214.75 Core loss probably in the sandstone.
217.80	220.85 (3.05)	2.30	75.40%		218.55		0.75	217.80 Core loss probably in the sandstone.
							0.95	218.55 SILTSTONE, SANDY: Medium light gray N-6 at its sandy siltstone at the top and becomes becomes almost SANDSTONE SILTY. Sandstone is fine grained (F-U) Rounded, well sorted, Qtz ~90%. It contains silty bands throughout the unit. These silty bands dominated in the middle part.
220.85							0.76	SHALE: sandy silty contains thin coal bands.
					220		0.46	INTERBEDDED SANDSTONE AND SILTSTONE, medium dark gray N-4. Sandstone dominates over siltstone. The ratio is 70:30. Sand increases towards the base. It is clayey, carbonaceous; resistances and pyritic in the middle part. Sandstone is silty, fine grained and modet.
							0.77	
220.85								SILTSTONE, SANDY; Dark gray N-3, muddy, hard compact slightly pyritic and carbonaceous. It contains a silica nodule 0.6 at the bottom of the run.

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES
220.85	222.10 (1.25)	1.25	100%		
222.10	223.10 (1.0)	0.95	95%	223.05	223.05
223.10	225.75 (2.65)	1.75	66.03		224
225.75	226.75 (1.0)	0.78	78%		225.97
226.75	229.80 (3.05)	1.55	50.82%		228.30
229.80	231.70 (1.90)	0.56			230; 230.36
231.70					

THICKNESS	LITHOLOGIC DESCRIPTION	
0.13	SILTSTONE: Pale yellowish brown 10YR 6/2, sandy, pyritic, slightly carbonaceous	220.98
0.14	COAL: - Brownish black, 5YR 2/1, very dirty, pyritic, resinous; lignite type.	221.12
0.98 / 0.38	CLAYSTONE, SILTY: - Medium dark gray N-4, silty and sandy, rooted, pyritic, plant fossils present, slickensided, hard and compact. slightly carbonaceous.	
0.57	SILTSTONE: Medium gray N-5, hard, pyritic, fossiliferous (plant fossils, rooted, burrowed, lenses of sand present, grades down into sandstone.	
0.90	SANDSTONE: - light gray N-7, fine grained (FL) rounded, well sorted, Quartz > 80%, heavy minerals rarely present, slightly pyritic, silty, becomes more silty towards the base.	
	~~Core loss probably in the sand stone.~~	223.05
0.05	Core loss probably in the sandstone.	223.10
1.75	SANDSTONE AND SILTSTONE INTERBEDDED: - Light olive gray N-5 SANDSTONE SILTSTONE ratio is 60:40. SST is dominant towards the base while the siltst. is dominant at the top. SST. light olive gray 5Y 6/1 fine grained (FL) rounded well sorted, Qtz 70-90%. (varies place to place) heavy minerals less than 1%. burrowed, Slt st. Med. Dark gray N-4 loose, slightly carbonaceous	224.00
0.22	CORELOSS in the sandstone at the top	225.75
0.78	SST. (calc.) L.G. N-7. highly cal. at the top, less towards at the base. f. grained (FU) mod. sorted, rounded, Qts upto 50% heavy minerals 1%. Green coloured minerals glauconite or żolicrole rarely present. organic matter rarely present. Hard compact and unfossiliferous.	225.97
0.60	SILTY SANDSTONE: - Colour light gray N-7 fine grained (FU) rounded (subangular upto 30%) Qts 60-70%. poor to moderately sorted. heavy mineral less than 1%, slightly carbonaceous, loose unfossiliferous. In the above 20 cms it contains silt laminations.	
0.12	SILTSTONE: - light brownish gray 5YR 4/1 hard, compact, unfossiliferous none calcareous organic matter present.	
0.83	SANDSTONE: - Dark gray N-3, light gray N-7, medium grained (MU) Med. Grained (ML) upto 40% subangular, poorly sorted, Qts 60-70% Heavy minerals uncommon, carbonaceous, occasional coaly specks, rock fragments and ferrugenous coating.	228.30
1.50	Core loss probably in the sand stone.	229.80
0.13	CLAYSTONE, SILTY, SANDY: - Medium dark gray N4	229.93
0.36	COAL.	230.29
0.07	MUDSTONE: - Light brownish gray 5YR 6/1, lose, friable, coaly, carbonaceous. contains pockets of sand and silt, slightly pyritic, coarse sand grains randomly present	230.36
1.34	Core loss	231.70

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					T			231.70
231.70	233.70 (1.35)	0.95	70.37		2		0.40	Core loss: probably in the sandstone due to the loose silica nodules in the top of the run. 232.10
					232.10		0.95	SANDSTONE:- Medium gray N-5, Medium grained (mL), subangular, moderately sorted, quartz 50% silt and clay particles 30-40%, Fe Mg minerals rare, slightly carbonaceous, ferriferous (beef fossils) pyritic silty loose, contains a few silica nodules of 0.10 m dia in the top. 233.05
233.05	234.65 (1.60)	1.20	75%		3		0.40	Core loss probably in the top of the run in sandstone. 233.45
					233.45		1.20	SANDSTONE, SILTY:- Medium gray N-5, Med. grained (mL) in the lower part mid. grained (mU) rounded, poorly sorted, Qtz 30-50% silt size and other particles 45%, Fe Mg minerals uncommon, rosy Qtz and glauconite very rare. Pyritic, carbonaceous, coaly specks present and are dominant towards the base. micaceous, loose, Inorganic, sorted, plant fossils present. Grades down into siltstone. 234.65
234.65	236.10 (1.45)	0.25	24.57%		4		1.47	Core loss probably in the sandstone at the top of the run. 235.82
					5			SILTSTONE, SANDY:- Medium gray N-5, Mod. dark gray N-4. also contains some pockets of med. grained sandstone. Hard, compact, coaly, carbonaceous, pyritic and sorted. Plant fossils present. At the base there is 0.4 m hard and compact silica nodule.
					235.82		0.28	
236.10	236.35 (0.25)	0.25	100%		6		0.25	SHALE:- Dark gray N-3, flaggy, silty, sandy, pyritic and carbonaceous. It contains a very thin coal film. At the base it becomes almost fine grained sandstone. 236.35
236.35	237.20 (0.85)	NIL	0%		7		0.85	Core loss probably in the mudstone. 237.20
237.20	238.75 (1.55)	0.45	29%		8		0.45	SANDSTONE:- Med. gray N-4, fine grained (fu) becomes silty in the middle part rounded moderately sorted, Fe Mg minerals rarely present, carbonaceous micaceous. There is a 0.10 m thick silica nodule at the base which is hard and compact. 237.65
					237.65		1.10	Core loss probably below the silica nodule. 238.75
238.75	240.25 (1.50)	1.10	73.33%		9		1.10	SANDSTONE:- Very light gray N-7 - light olive gray 5Y6/1, fine grained (fu) sub rounded, (rounded upto 40%) well sorted Quartz > 90% Fe Mg minerals and rock fragments present Green coloured minerals probably epidote in colour, also rarely present. loose and soft. 239.85
					239.85		0.40	Core loss probably in the sandstone. 240.25
240.25					T			
					2			

DRILL-HOLE NO UAT-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
240.25					240			
240.25	241.75 (1.50)	0.50	33.33%		1		1.0	Core loss probably at the top of the run. 240.25
					241.25		0.50	SILTSTONE SHALY:- Med. gray N-4, contains some sand pockets also pyritic, coal films and plant fossils. It contains a hard and compact silica nodule of 0.03 m thick at the top of run. 241.25
241.75							0.18	SILTSTONE SHALY:- Become comparatively more shaly and contains more coal films, otherwise same as above.
					2		1.07	SANDSTONE, SILTY:- Dark gray N-3. coarse grained (CL) subrounded poorly sorted, Qtz 50 to 70 %, carbonaceous, micaceous, slightly pyritic. plant fossils present
					3		0.15	
					243.15		1.25	MUDSTONE:- Med. gray N-5. coal spells and plant fossils present. coarse grained sand pockets also present. carbonaceous and pyritic. 243.15
241.75	244.40 (2.65)	1.40	52.83 %		4			Core loss probably in the mudstone. 244.40
244.40	246.60 (2.0)	Nil	0 %		5		2.0	Core loss probably in the Sandstone.
					6			246.40
246.60	247.75 (1.35)	Nil	0 %		7		1.35	Core loss probably in the Sandstone. 247.75
247.75	248.75 (1.0)	Nil	0 %		8		1.0	11 248.75
248.75	249.75 (1.0)	Nil	0 %		9		1.0	11 249.75
249.75	250.75 (1.0)	Nil	0 %		250		1.0	11 250.75
250.75					1			
					2			

DRILL-HOLE NO UAT-2

CORE RECOVERY				WATER LOSS
FROM	TO	CORE	CORE %	
250.75	252.40 (1.65)	0.70	42.42 %	
252.40	253.80 (1.40)	0.50	35.71 %	
253.80	255.55 (1.75)	1.15	82.14 %	
255.55	256.85 (1.30)	0.87	66.92 %	
256.85	259.90 (3.05)	1.77	58.03 %	
259.90	261.65 (1.75)		94.70 % (1.60)	

DEPTH METRES	THICKNESS	LITHOLOGIC DESCRIPTION
250.75	0.95	core loss probably in sandstone at the top of the run — 251.70
251.70	0.70	SANDSTONE: Light olive gray 5Y 6/1, medium grained (mu) sub-angular (subrounded) up to 35%. Moderately sorted. Qtz >90% FeMg and other rock fragments up to 1% lose, soft friable Rosy Qtz present. — 252.40
252.40	0.50	SANDSTONE: coarses downward (i.e. coarse grained up (cu)) other properties same as above. — 252.90
252.90	0.90	core loss probably in the above sandstone at the bottom of the run. — 253.80
253.80	0.60	core loss probably at the top of the run in sandstone. — 254.40
254.40	1.15	SILTSTONE: Light gray N-7 - Medium dark gray N-4. Sandy hard, compact coal films. Rippled, rooted, pockets of sand present. Slightly rippled and carbonaceous, plant fossils present.
	0.87	SILTSTONE SANDY: Medium dark gray N-4, Hard, compact, rippled (dominant in the middle part) coal specks and organic matter present. Ripples are usually filled with fine grained sand which forms roughly 30% of the unit. Slightly pyritic. Siderite nodules present. — 256.42
256.42	0.43	core loss probably at the bottom of the run. — 256.85
256.85	1.28	core loss probably at the top of the run. — 258.13
258.13	0.82	SILTSTONE: Medium light gray N6 — Medium gray N5, contains streaks of very fine sandstone which increases towards the base. In the lower part it is interlaminated with silt. Grades down into sandstone.
	0.44	SANDSTONE: Light olive gray 5Y 6/1, Medium grained (mu) Rounded, well sorted. Qtz >70%. FeMg and other rock fragments 1% lose soft friable. Grades down into siltstone.
	0.23	CLAYSTONE, SILTY: Med. light gray N-6, hard, compact, rooted, carbonaceous, burrowed, pyritic, coal specks, carbonaceous. Grades into coaly shale.
	0.13	SHALE: Dark gray N-3, Fissile, highly carbonaceous, contains interlaminations of coal, pyritic, burrowed, plant fossils present. Grades down into coal.
	0.18	COAL: Pyritic, contains some silty sandy and carbonaceous material probably lignite type.
	0.34	UNDER CLAY: Medium gray N-5, Flaggy, carb. pyritic, silty coal streaks and plant fossils present.
	1.40	CLAYSTONE: M.L.G. N-6, silty, sandy, slickensided, burrowed, py... specks, plant fossils present. Grades down into siltstone.
		SILTSTONE: M.D.G. N-6 — M.G. N-5, compact, burrowed, rippled, nodules of siderite & silica present.
261.50	0.15	core loss probably in the siltstone.

Form 3a

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DRILL-HOLE NO UAT:2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1			
261.65	264.65 (3.0)	0.80	26.66%		2		0.80	SANDSTONE:- Light olive gray 5Y6/1. Medium grained (MG) subrounded, Moderately sorted (Qt3 > 95%. Fe Mg and other dark coloured minerals and rock fragments 1% lose, soft and friable. 262.45
					262.45		2.80	core loss probably at the base of the run.
					3			
					4			
264.65	266.0 (1.35)	0.57	42.22%		5		0.78	264.45 core loss probably at the top of the run.
					265.43		0.57	SANDSTONE:- Light olive gray 5Y6/1 Medium grained (MG) subrounded, well sorted, Qt3 > 95% Fe Mg and other rock fragements 1%, lose and soft.
266					6		1.25	266 core loss probably at the top of the run.
					7			
266.0	268.0 (2.0)	0.75	37.50%		267.25		0.75	267.25 SANDSTONE:- Light olive gray 5Y6/1, Medium grained (MG) Coarse grained (CG) more than 30%, sub rounded, Moderately sorted. Qt3 > 95% Fe Mg minerals and rock frags. 1% lose and soft.
268.0	268 (0.85)	NIL	0%		8		0.60	268.00 core loss probably in the above sandstone. 268.60
268.60					9			
					0			
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					0M			0.0
					1			ALLUVIAL SAND_ Dark Yellowish brown 10YR 6/2 very fine to fine, well sorted, micaceous, loose, silty, Few rosy quartz and other dark coloured heavy minerals present. Quartz up to 90%. Subangular moderately sorted,
					2			2.00
					3			SANDSTONE Light-olive gray 5Y 6/1, Fine grained, angular to subangular, calcareous, micaceous, few clear rosy quartz grains, few Fe:Mg: mineral grains upto 10-20%. Quartz upto 90%. (Finning upward).
					4			4.00
					5			SANDSTONE_ Fine grained Other properties same as above
					6			6.00
					7			SANDSTONE Same as above.
					8			8.00
					9			SANDSTONE Same as above.
					10			10.00
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								10.00
					10			SANDSTONE Same as above 12.00
					2			SANDSTONE Same as above 14.00
					4			SANDSTONE Same as above 16.00
					6			SANDSTONE Fine to very fine other properties same as above. 18.00
					8			SANDSTONE Same as above 20.00
					20			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					20			20.00
								SANDSTONE – Same as above
								22.00
								SANDSTONE – Same as above.
								24.00
								MUDSTONE – Light-gray N-7, Sand grains upto 50%, silty pieces 35-45%, clay 5-10%, Sand grains are very fine (VFG) Sub-rounded, poorly sorted, Fe mg, & leary minerals upto 1%.
								26.00
								MUDSTONE – Same as above
								28.00
								SANDSTONE – Light-gray N-7, fine grained Subrounded, well sorted, quartz 80-85%. Fe-mg. mineral grains upto 15-20%. Micaceous, slightly Clayey, probably mixed with mud.
								30.00

LAKHARA FORMATION — ALLUVIUM

DRILL-HOLE NO IIAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					30			30.00
					1			MUDSTONE:- Colour; same as above, silty nodules upto 50%, Sands 30-35%, clay 10-15%, silty pieces are highly calcareous, there are probably limestone cuttings mixed with silt and sand particals, sand grains are very fine (VFG) sub-angular (FMG) or heavy minerals 1-2%.
					32			32.00
					2			MUDSTONE:- Same as above.
					3			34.00
					4			MUDSTONE : Same as above.
					5			36.00
					6			MUDSTONE:- Same as above.
					7			38.00
					8			MUDSTONE : SAME as above.
					9			40.00
					40			
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					40			40.00
								MUD STONE: Same as above,
								42.00
					2			MUDSTONE: Same as above,
					3			44.00
					4			SAND STONE SILTY:- Colour, light olive grey, 5Y 6/1, Medium to coarse grained, sub rounded, poorly sorted, calcareous, micaceous, Quartz 50-60%. Silty nodules 20-30%, Rounded calcite grains 5-10%, other dark coloured and black minerals 5-10% rock fragments present, Nick, Silty nodules are highly calc.
					5			
								46.00
					6			SAND STONE SILTY:- Colour, Same as above, Coarse grained (Coarse grains more than 60%, medium grains upto 30%, sub rounded, unsorted, calcareous quartz 45-55%, calcite grains 10-15%, matrix, silty upto 25% and is mainly ferrogenous, dark coloured and black minerals upto 5% there are probably limestone cuttings mixed with sand and silt particals.
					7			
								48.00
					8			SAND STONE SILTY:- Same as above.
					9			
								50.00
					50			
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					50			50.00
								SAND STONE SILTY:- Colour, same as above, medium grained (medium grains upto 60%, coarse grains upto 20%, ill to moderately sorted, quartz 60-70%, dark coloured and black minerals upto 5%. Matrix ferrugenous upto 20% milt size calcareous micaceous? and pyritic
								52.00
					3			SAND STONE SILTY:- Colour same as above fine grained (lower limit) sub angular well sorted quartz upto 90%, dark coloured and black minerals upto 5%, matrix 5% (Ferrogenous) calca- reous.
								54.00
					5			SAND STONE SILTY:- Same as above,
								56.00
					6			SAND STONE SILTY:- Same as above.
					7			LIME STONE:- Colour light Grey N7.
								58.00
					8			LIME STONE :- Same as above.
					9			60.00
					60			
					1			
					2			

Form 3a

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DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								60.00
					60			LIMESTONE:- Same as above.
					1			
								62.00
					2			SANDSTONE:- Colour, medium dark gray N4, Medium grained (ML) coarse grains upto 5%, Sub rounded (rounded upto 30%, moderately sorted calcareous, hyaline, Quartz more than 90%, Heavy minerals minerals not Common, occasionally calcareous silty nodules present.
					3			
								64.00
					4			LIMESTONE:- Colour, light, olive gray 5Y 6/1 Fossiliferous, (usually shell cuttings) present, probably sandy.
					5			
								66.00
					6			SAND STONE:- Colour medium gray N5. Medium grained (lower limit) rounded, (well rounded grains upto 15%, well sorted, Quartz up to 95%, Fe.mg and other dark coloured mineral occasionely present; hyaline rarely present, calcareous
					7			
								68.00
					8			SAND STONE:- Coloured same as above. Medium grained (upper limit) rounded (angular fragements upto 30%, well sorted, Quartz more than 90%, hyaline, otherwise same as above.
					9			
								70.00
					70			
					1			
					2			

BARA FORMATION — LAKHRA FORMATION

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					70			70.00
					1			SAND STONE:- Colour same as above, medium grained (lower limit) coarse grains upto 5% rounded (sub rounded grains upto 80-25% well sorted. Quartz upto 95% Ferrug minerals rarely present. Pyrite, and calcareous.
					72.00			
					2			SAND STONE:- Colour same as above. Medium grained (upper limit) otherwise same as above.
					3			
					74.00			
					4			SAND STONE:- Colour light olive gray 5Y 6/1 Very fine (upper limit) angular (sub angular grains upto 30%) well sorted. Quartz upto 85% Ferrug and other dark coloured minerals upto 10%, Rock pregments rarely seen calcareous.
					5			
					76.00			
					6			SAND STONE:- Same as above.
					7			
					78.00			
					8			SAND STONE:- Same as above.
					9			
					80.00			
					80			
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					80			80.00
								SAND STONE :- Colour same as above, only the ferromagnesium mineral proportion increases i.e 10-15%, otherwise same as above.
								82.00
					2			SAND STONE :- Colour, same as above, Fine-grained (lower limit) rounded, (Sub rounded grains up to 90%) well sorted, Quartz more than 75% Ferromagnesium and other dark coloured minerals 0-5% calcareous.
					3			84.00
					4			SAND STONE :- Same as above.
					5			86.00
					6			SAND STONE :- Colour, same as above, fine grained, (upper limit) angular, (Sub rounded grains upto 40%) well sorted, Quartz upto 95% Ferromagnesium minerals less than 5%, Rosy quartz present, calcareous slightly carbonaceous micaceous and pyritic.
					7			88.00
					8			SAND STONE :- Colour light olive grey 5Y 6/1, fine grained (lower limit) Sub-angular (Sub-rounded grains upto 80%, well sorted, quartz upto 80%, other ferromagnesium and dark coloured minerals 15-20%, Rosy quartz present chert pegments present, calcareous and micaceous.
					9			90.00
					90			
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					90			90.00
								SAND STONE :- Same as above.
								92.00
					2			SAND STONE :- Same as above.
					3			94.00
					4			SAND STONE :- Colour, light olive gray 5Y 6/1 Fine grained (up limit) (medium grains up to 20% coarse grains upto 5%, Sub-rounded, Crounded grains upto 20%, moderate to well sorted, Quartz 90%, Ferng and other dark coloured minerals 8-10%, calcareous, slightly carbonaceous, micaceous and pyritic
					5			
					6			96.00
								SANDSTONE :- Colour, same as above, medium grained (fine grains upto 40%, rounded, Sub rounded grains upto 20%, micaceous pyritic otherwise same as above.
					7			
								98.00
					8			SAND STONE :- Same as above.
					9			
								100.00
					100			
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					100			100
								SANDSTONE :- Colour same as above, Fine-Granied (lower limit) Sub-rounded (Sub-angular and angular grains up to 20%) Quartz 80-85%, Fe mg and other dark coloured minerals 10-15%, calcareous, micaceous and pyritic.
								102.00
								SANDSTONE :- Same as above.
								104.00
								SANDSTONE Same as above.
								106.00
								SANDSTONE Same as above.
								108.00
								SANDSTONE :- Colour, light olive grey 5Y6/1, fine grained (upp. limit) Sub rounded (Sub-angular fragements up to 30%. Quartz up to 80%, Fe mg and other dark Coloured minerals 10-15%, Some shale and other rock fragements present, calcareous pyritic and micaceous
					110			110.00

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					110			110.00 SAND STONE :- only the proportion of rock fragments decrease or becomes rare, otherwise same as above. 112.00
					2			SAND STONE. colour same as above. fine-grained (lower limit) Sub-rounded (rounded up to 80%) well sorted, quartz more than 90%, Femg and other dark coloured minerals 5-10%, hyaline micaceous and calcareous 114.00
					4			SAND STONE same as above. 116.00
					6			SAND STONE same as above. 118.00
					8			SAND STONE :- colour same as above, fine-grained (up. limit) (medium grains up to 30%), moderately sorted, otherwise same as above. 120.00
					120			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					120			120.00
								SANDSTONE: The ferromagnesian and other dark coloured minerals proportion slightly decreases, otherwise same as above.
								122.00
					2			SANDSTONE:- Colour same as above, fine grained (up. limit), rounded (sub-rounded and sub-angular grains upto 50%, well sorted, quartz 85-90%, ferromagnesian and other dark coloured minerals 10-15%, calcareous, micaceous and pyritic
					3			124.00
					4			SANDSTONE:- Colour same as above; only the proportion of medium grains slightly increases; i.e. upto 15%, Otherwise same as above.
					5			126.00
					6			SANDSTONE:- same as above.
					7			128.00
					8			SANDSTONE:- same as above.
					9			130.00
					130			
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					130			130.00 SANDSTONE :- Same as above.
								132.00 SANDSTONE :- only the proportion of medium grains decreases and it becomes almost fine grained, otherwise same as above.
								134.00 SANDSTONE :- Colour, same as above, fine grained (lower limit) sub-rounded, (Sub-angular grains upto 30% (Quartz 90-95%) Ferruginous and other dark coloured minerals upto 5%, calcareous, micaceous and pyritic
								136.00 SANDSTONE :- Very fine grained (upper limit) otherwise same as above.
								138.00 SANDSTONE :- Colour, same as above, Fine grained (lower limit) Sub-rounded (Sub-angular grains 05-30%)., well sorted, Quartz 90%, Ferruginous and other dark coloured minerals 5-10% pyritic, micaceous and calcareous.
								140.00

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					140.00			
								SANDSTONE:- Same as above,
					142.00			
								SANDSTONE:- Same as above.
					144.00			
								SANDSTONE:- Colour same as above, fine grained (up limit) (medium grains upto 15%, Sub-rounded (rounded grains upto 30%, well to moderately sorted, otherwise same as above.
					146.00			
								SANDSTONE:- Colour, same as above, Fine grained (up limit) (medium grains 15% Subrounded (rounded grains upto 30% well sorted, otherwise same as above.
					148.00			
								SANDSTONE:- A few grains of Fe Mg and other dark coloured mineral less than 1% are present, otherwise same as above.
					150.00			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								150.00
					150			SANDSTONE:- Medium grains decrease, other units same as above.
								152.00
					2			SANDSTONE:- Colour, same as above, very fine grained upto limit) Rounded (Sub-rounded upto 15%) well sorted, Quartz 90-95% Fe mg and other dark coloured minerals 5-10%, calcareous, pyritic and micaceous,
					3			
								154.00
					4			SANDSTONE:- Colour same as above, Fine grained, (upto limit) Sub rounded (Sub angular and rounded Grains upto 35%), moderate to well sorted, Quartz 90-95% Fe mg and other dark coloured minerals upto 5%, rock fragments seen, micaceous, calcareous and pyritic
					5			
								158.00
					6			SANDSTONE:- Colour, same as above, fine grained (upto limit) rounded (Sub-rounded and sub-angular grains grains upto 30%. Moderately sorted, Quartz 90-95% Fe mg and other dark coloured minerals upto 5%. Rock fragments rarely present, calcareous, micaceous and pyritic.
					7			158.00
					8			SANDSTONE:- Colour, same as above, fine grained (upto limit) (medium grains upto 80%) rounded (Sub-rounded upto 45%) Moderate to well sorted, calcareous, micaceous and pyritic.
					9			
								160.00
					160			
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					160			160.00
								SANDSTONE:- Some medium grains increase, otherwise same as above,
								162.00
								SANDSTONE:- Colour, same as above, fine-grained (UL) angular (rounded grains upto 45%), moderally sorted, Quartz 85-90%, rock fragements & fossil shell fragements 2-5%, calcareous, micaceous and pyritic
								164.00
								SANDSTONE:- , same as above,
								166.00
								SANDSTONE:- Colour, same as above, fine-grained (UL) (medium grains 5-10% rounded, (Sub rounded and Sub angular upto 40%) poorly sorted, Quartz 90-95%, Fe Mg and other dark coloured minerals upto 5%, rock fragments rarely seen, otherwise same as above,
								168.00
								SANDSTONE:- Colour, same as above, fine grained (UL) rounded (well rounded grains 5-10%), well sorted Quartz 90-95%, Fe Mg and other dark coloured minerals upto 5%, calcareous, pyritic and micaceous,
					170			170.00

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					170			170.00 medium SANDSTONE. only one grain of glauconite is seen, other wise same as above, 172.00
					2			SAND STONE:- Colour, same as above, Fine grained (UL), rounded, well sorted, Quartz 90%, Fe Mg & and other dark coloured minerals 5-10%, pyrite, micaceous and calcareous. 174.00
					4			SANDSTONE:- Colour, same as above, fine grained (UL) rounded (Sub rounded grains upto 30%, Quartz more than 90%, Fe Mg & other dark coloured minerals upto 5%. Well sorted Rock fragments (carbonate) present, glauconite is occasionally seen, pyrite, micaceous and calcareous. 176.00
					6			SANDSTONE:- Same as above 178.00
					8			SANDSTONE:- Colour same as above, Fine grained (UL) rounded, dark gray, dark gray Shaley fragements present, other wise same as above. 180.00
					100			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					180			180.00
								SANDSTONE:- Colour, light olive gray 5Y 6/1 fine grained (UL) Rounded (Sub rounded and subangular grains upto 20%) Moderately Sorted, Quartz 90-95%, Fe Mg and other dark coloured minerals 2-5%, glauconite rarely seen, slightly micaceous, Kyanite and calcareous.
								182.00
								SANDSTONE:- Colour, same as above, Fine-grained (UL) (medium grains upto 15%), otherwise, same as above,
								184.00
								SANDSTONE:- No glauconite is seen, otherwise same as above.
								186.00
								SANDSTONE:- same as above.
								188.00
								SANDSTONE:- Colour, same as above, Fine-grained (U.L.) glauconite is occasionally seen otherwise same as above.
								190.00
					190			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					190.00			
					190			SANDSTONE SILTY:- colour, light olive gray 5Y6/1 Fine grained (FL) Sub rounded, well sorted, Quartz upto 95%, other Fe Mg and other dark coloured minerals 2%, Rock fragments rarely seen, Some silty nodules occasionally present, calcareous, slightly micaceous and slightly pyritic
					192.00			
								SANDSTONE:- colour, same as above, Fine-grained (FL) Sub rounded, (moderately sorted, Quartz more than 95%, Fe Mg and other dark coloured minerals 1%, pyrite rare, micaceous and calcareous.
					194.00			
								SANDSTONE:- Same as above.
					196.00			
								SANDSTONE SILTY:- colour, same as above, very fine (VFL) and silty, rounded (sub rounded grains 30%). Quartz more than 95%, Fe Mg and other dark coloured 1%, calcareous, slightly pyritic and micaceous.
					198.00			
								SANDSTONE:- Same as above.
					200.00			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					200			200.00 SANDSTONE:- very fine (vfu), otherwise same as above.
					1			
					2			202.00 SANDSTONE:- Same as above.
					3			
					4			204.00 SANDSTONE: Same as above.
					5			
					6			206.00 SANDSTONE:- Same as above.
					7			
					8			208.00 SANDSTONE:- Same as above.
					9			
					210			210.00
					1			
					2			

Form 3a

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DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					210			210.00
								SANDSTONE SILTY:- grain size decreases, silty particles increase, otherwise, same as above.
								212.00
								SANDSTONE SILTY: same as above.
								214.00
								SANDSTONE SILTY:- same as above.
								216.00
								SANDSTONE SILTY:- The ratio of silt increases, otherwise same as above,
								218.00
								SANDSTONE:- Colour, same as above, Fine grained (FL), sanded, well sorted, Quartz upto 95%
								220.00

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					220			220.00
								SANDSTONE: Same as above.
								222.00
					2			SANDSTONE: - Colour, same as above, Fine-grained (LL) rounded (subrounded (upto 40%) well sorted, Quartz more than 95%, Fe mg and other dark coloured minerals 3-5%, otherwise same as above.
					3			224.00
					4			SANDSTONE: - Colour, light olive grey 5Y6/1, Medium grained (LL) Subrounded (angular to sub angular grains upto 30%, Moderately sorted, Quartz 90-95%, Fe mg and other dark coloured minerals upto 1%, rock fragements (carbonate) present, some fragements of shale and silt are also present; calcareous and occasionally micaceous? 226.00
					5			
					6			SANDSTONE- Colour same as above, fine grained (F.U), subrounded, moderate to poor sorting. Quartz upto 95%, Fe.mg and other rock fragments 1-2% rock fragments (carbonate) occasionally present, calcareous and rarely micaceous.
					7			228.00
					8			SANDSTONE- Colour same as above, medium grained (Low) (medium grains upper, but upto 25-30%, rounded, subrounded and subangular upto 30%) Quartz more than 95%, Fe.mg, and other heavy minerals very rare, some black shaly fragments (probably non-calcareous) present, very fine grained glauconite (a single grain is present, calcareous slightly pyritic, a 230.00
					9			
					230			few grains of rosy quartz are present
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					230			230.00
								SANDSTONE:- Colour, same as above, medium grained (ml) medium grained (mg) grains up to 10%, subrounded (rounded grains up to 10%, poorly sorted, Quartz 95% Fe mg and other dark coloured minerals up to 1%, Rock fragments and very quartz is present, ferruginous coating is common, calcareous and slightly pyritic
								232.00
					2			SANDSTONE:- Colour, same as above, medium grained (mg) sub rounded (rounded grains up to 0.05%) Quartz upto 95%, Fe mg and other dark coloured minerals more than 10%, Rock fragments (mainly black shale) is present slightly micaceous, pyritic and calcareous.
					3			234.00
					4			SANDSTONE:- Colour, same as above, medium grained (mg) Quartz 90-95%, proportion of Fe mg and other rock fragment (shale and silt) increases, otherwise same as above.
					5			236.00
					6			SANDSTONE:- Same as above
					7			238.00
					8			SANDSTONE:- Colour, same as above, medium grained, rounded (sub-rounded grains up to 20% Quartz 90-95%, Fe mg and other dark coloured minerals very rare, Rock fragments (shale) present; Ferruginous coating is very common calcareous and pyritic
					9			240.00
					240			
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					240			240.00 SANDSTONE: Same as above,
					2			242.00 SANDSTONE SILTY:- Colour, Same as above, medium grained (mode) Sub-rounded, poorly sorted, Quartz 80-85%, Fe mg and other dark coloured minerals 1%. Silt 10-15% Rock fragments present; Pyritic and Calcareous.
					3			
					4			244.00 SANDSTONE:- Carbonaceous contents present & Ferruginous Coating increases, otherwise Same as above.
					5			
					6			246.00 MUDSTONE (SANDY), light olive gray 5Y 6/1, The sand dominates over silt and clay. It is calcareous and Pyritic.
					7			
					8			248.00 SANDSTONE:- Same as above,
					9			
					250			250.00
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					250			250.00
								SANDSTONE:- Light olive gray 5Y 6/1 Fine grained (f-g) rounded, Quartz 90-95% Heavy minerals and other dark coloured minerals 1%, Rock fragements (Generally, silt stone and claystone) present. Rosy Quartz present, Recrystallised cementing is common, calcareous, slightly lignitic, glauconite rarely seen (only one grain seen)
					2			252.00
								SANDSTONE:- Colour, same as above, Medium grained (m-g) coarse grains (5-10%) poorly sorted, otherwise, same as above.
					3			254.00
					4			SANDSTONE:- Colour same as above, Medium grained (m-g) coarse grains 5-10%, poorly sorted, otherwise same as above,
					5			256.00
					6			SANDSTONE:- Same as above,
					7			258.00
					8			SANDSTONE:- medium grained (m-g) silty, otherwise same as above,
					9			260.00
					260			
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RECOVERY CORE	CORE RECOVERY CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					260			260.00
					1			SANDSTONE:- Brown, same as above, fine-grained (fg) silty, subrounded, moderate to well sorted, Quartz upto 45% Fe mg minerals 3-5%
					2			262.00
					3			SANDSTONE: Medium dark grey N4 · fine grained (FG) medium grained (mg) upto 10%, Sub-rounded, moderately sorted, Quartz more than 95% Fe mg and other element minerals 0-3%
					4			264.00
					5			SANDSTONE:- Same as above,
					6			266.00
					7			SANDSTONE:- Same as above
					8			268.00
					9			SANDSTONE:- Brown
					270			270.00
					1			
					2			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					270			270.00
					1			SANDSTONE:- Colour, same as above, Fine-grained (Fg) Rounded, poorly sorted, silt nodules present, Quartz 95%, Fe mg and other dark coloured minerals less than 1% Ferruginous coating is common, calcareous, slightly pyritic
					2			272.00
								SANDSTONE:- SANDSTONE:- The proportion of rounded grains and silt decreases, otherwise same as above.
					3			274.00
					4			MUDSTONE:- Colour, same as above, the proportion of sand grains dominates over silt and clay. i.e. Sand 50%, silt 35% and clay 15%. The sand grains are sub-rounded, the rock is calcareous and slightly pyritic
					5			
					6			276.00
								SANDSTONE SILTY:- Colour, same as above, Fine-grained (Fg) Sub-rounded, poorly sorted of colourless Quartz more than 95%, Fe Mg and other minerals very rare, rock fragments present, pyrite rarely seen,
					7			
					8			278.00
								SANDSTONE SILTY:- Colour, Medium grey N/5, Medium grained (Mg) Rounded (sub rounded grains 30-40%) poor to moderately sorted, Quartz 80-85%, Rock fragements up to 10%, Fe Mg and other coloured minerals 1% Ferruginous coating is rare.
					9			280.00
					280			
					1			
					2			

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					280			280.00 SANDSTONE:- Colour, same as above, Fine grained (up) rounded (moderate to well sorted, Quartz 80-85%, Femg and other dark coloured minerals 10-15%, Rock fragments present, pyrite 282.00
					2			SANDSTONE: - Some coarse and silty materials increase, otherwise same as above. 284.00
					4			SANDSTONE:- Colour, same as above, Fine grained (F.G.) medium grains up to 30%, sub-rounded, poorly sorted Quartz 90-95%, heavy minerals less than 1%, calcareous and pyrite; 286.00
					6			SANDSTONE:- Colour, same as above, the proportion of heavy minerals increase i.e. 1%, otherwise same as above, 288.00
					8			SILTSTONE SANDY, colour, same as above, silty particles & grains up to 50-70% sandy grains 20-25% clay particles 5%, sandy grains sub-angular to sub rounded, Quartz in sandy grains up to 80%, heavy minerals 5-10%, pyrite, Rock fragments rarely present. 290.00
					290			

DRILL-HOLE NO UAT-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					290			290.00 SANDSTONE: Colour, same as above, medium grained. (mL) Rounded (sub rounded grains up to 30%. poorly sorted, Quartz upto 95%, Fe mg and other dark coloured minerals 1%, Rock fragements present (generally siltly fragements), calcareous, Pyrite, Ferrugenous coating is common,
					292			292.00 SANDSTONE: Becomes finer i-e fine grained (uF) otherwise same as above,
					294			294.00 SANDSTONE: Colour, same as above, Fine grained (F) Rounded, moderately sorted, Quartz more than 90%, Fe Mg and other dark coloured minials upto 5%, rock fragements rarely present, Pyrite, calcareous, ferrugenous coating is common,
					296			296.00 SANDSTONE: Same as above
					298			298.00 SANDSTONE: The proportion of Fe Mg and other dark coloured minerals slightly decreases, otherwise same as above,
					300			300.00

DRILL-HOLE NO UAT-3

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					300.00
					300 – 302.60			SAND STONE SILTY:- Colour, same as above, Fine grained (FU) Rounded (subrounded sub-angular up to 45%, poorly sorted Quartz up to 95%, Fe Mg and other dark coloured minerals 1%, rock fragements occasionally present; slightly silty, same as above. 302.60
								TD

Form 3a

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DRILL-HOLE NO UAT-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
1.00	2.00				1		2 m	
2.00	4.0	CORING			2 3 4		2 m	
4.0	6.0	CORING			5 6		2 m	RECENT ALLUVIAL SAND: light (N7) to very light gray (N8), loose, fine to medium coarse, silty, medium sorted.
6.00	8.0	CORING			7 8		2 m	
8.0	10				9 0 1 2		2 m	

Form 3a

-546-

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10.00	12.0'				11 12		2m	Alluvial sand: light to very light gray, fine to medium coarse grained, loose, med. sorted, micaceous, quartz dominent.
12.0	14.0				13		2m	Alluvial sand: light to very light gray, fine to med. coarse, quartz grains dominent, subangular in shape.
14.0	16.0	CORING			14 15		2m	Alluvial sand: light to very light gray, fine to med. coarse, sorted, subangular, loose.
16.0	18.0	NON -			16 17		2m	Alluvial Sand: light to very light gray, fine to med. coarse grained, loose, sorted, quartz rich, subangular.
18.0	20.00				18 19 20 1 2		2m	Sand: loose, light to very light gray, fine to medium coarse grained, silty, transparent and white sub-angular grains of quartz dominate over dark green and brownish grains med. sorted

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20.00	22.0				21			
22.0	24.0				22 23			
24.0	26.0	NON-CORING			24 25			Sand: light to v. light gray, fine to medium coarse grained, loose, subangular, transparent grains of quartz dominant, mod. sorted.
26.0	28.0				26 27			
28.0	30.0				28 29 30			
					1 2			

DRILL-HOLE NO IIAT-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30.00	32.0				31		2m	sand: light (N7) to very light gray (N8), fine to med. coarse, subangular, sorted, quartz dominant.
32.0	34.0				32 33		2m	
34.0	36.0	CORING			34 35		2m	
36.0	38.0	NON -			36 37	+ + + + + +	2m	sand: moderate yellowish brown (10 YR 5/4), very coarse, gritty, calcareous, minute shell fragments,
38.0	40.00				38 39 40 1 2		2m	

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DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40.00	42.0				41		2.00	Sandstone – Light gray N7, very fine - fine grained, sub-angular, poorly sorted, soft, loose, ferromagnesium grains, pale yellow colours calcareous particles, glauconite pellets
42.0	44.0				42 43		2.00	Sandstone – Light gray N7, fine - coarse, angular + sub. angular, poorly sorted, soft, loose, highly fossiliferous pale yellow particles are calcareous.
44.0	46.0	CORING			44 45		2.00	Sandstone – Light gray N7, very fine - fine, few medium grains which are of yellowish brown colours, sub-angular, poorly sorted, calcareous, ferromagnesium particles, glauconite pellets.
46.0	48.0	NON -			46 47		2.00	Sandstone – Same as above.
48.0	50.00				48 49 50 1 2		2.00	Sandstone – Same as above.

Form 3a

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DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
50.00	52.0				50–52		2.00	Sandstone- Light gray N7, very fine - fine, sub angular to sub rounded, poorly sorted, soft, loose, parting from Meting limestone and from Sodnani member present.
52.0	54.0				52–54		2.00	Sandstone- Dark greenish gray 5GY 4/1, fine - medium grained, sub rounded, sorted, pale yellow calc-areous partings, ferromagnesium grains, coaly and coaly specks, very rare glauconite.
54.0	56.0	NON - CORING			54–56		2.00	Sandstone- Same as above.
56.0	58.0	NON - CORING			56–58		2.00	Sandstone- Medium gray N5 to dark greenish gray 5GY 4/1, fine - coarse grained, angular to sub-angular, poorly sorted. pale yellow calcareous partings, rare reddish brown grains.
58.0	60.00				58–60		2.00	Sandstone- Same as above.

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
60.00	62.0	CORING - NON			61		2.00	Sandstone - Light gray N7, very fine - medium grained, sub angular to sub rounded, poorly sorted, pale yellow calcareous particles, Coaly specks, micaceous.
62.0	64.0				63		2.00	Sandstone - Same as above.
64.0	66.0				65		2.00	Sandstone - Medium dark gray N5, fine - coarse grained, sub angular to sub rounded, poorly sorted, pale yellow calcareous particles, black colored grains, & Coaly partings
66.0	68.0				67		2.00	Sandstone - Same as above.
68.0	70.00				69		2.00	Sandstone - Light gray N7 to medium gray N5, very fine - medium grained, sub-angular to sub rounded, poorly sorted, soft, loose, pale yellow calcareous partings, poorly preserved fossil fragments, micaceous
					70			
					1			
					2			

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
70.00	72.0				71		2.00	Sandstone- Light gray N7 to olive gray 5Y4/1, fine grained, subrounded, sorted, soft, loose, pale yellow calcareous particles, Coaly specks, micaceous.
72.0	74.0				72 73		2.00	Sandstone- Same as above
74.0	76.0	CORING			74 75		2.00	Sandstone- Light gray N7, fine grained, sub-angular to sub-rounded, sorted, soft, loose, calcareous, pale yellow partings are calcareous derived by river from the adjacent rocks of Lakhra or Laki Limestone units, ferromagnesium grains, Coaly partings, highly micaceous.
76.0	78.0	NON			76 77		2.00	Sandstone- Dark greenish gray 5GY4/1, fine grained, sub-rounded, sorted, soft, loose, calcareous due to pale yellow grains of adjacent rocks of Lakhra formation ferromagnesium grains, carby specks, micaceous, about 90% silica grains
78.0	80.00				78 79		2.00	Sandstone- Light gray N7 to medium gray N5, fine grained, sub rounded, sorted, soft, loose, calcareous due to pale yellow partings, ferromagnesium grains carby specks, micaceous, about 90% silica grains.
					80 1 2			

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
80.00	82.0				81 82		2.00	Sandstone - Light gray N7, fine grained, sub-angular to sub-rounded, poorly sorted, soft, loose, calcareous pale yellow partings, ferromagnesium grains, coaly and carby specks, micaceous
82.0	84.0				83 84		2.00	Sandstone - Same as above.
84.0	86.0	CORING			85 86		2.00	Sandstone - Light gray N7, fine grained, sub-rounded, sorted, soft, loose, calcareous due to pale yellow partings, coaly specks, ferromagnesium grains, micaceous.
86.0	88.0	NON-			87 88		2.00	Sandstone - Medium dark gray N5, fine grained, sub rounded, sorted, soft, loose, calcareous, rare pale yellow partings, coaly specks, micaceous.
88.0	90.00				89 90 1 2		2.00	Sandstone - Light gray N7, fine grained, sub angular to sub-rounded, sorted, soft, loose, calcareous due to pale yellow partings, coaly specks, micaceous.

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
90.00	92.0				91 92		2.00	Sandstone - Same as above.
92.0	94.0				93		2.00	Sandstone - Light gray N7 ; fine to medium grained, sub-angular, poorly sorted soft, loose, Calcareous due to pale yellow partings, Coaly specks, micaceous, above 90% quartz grains.
94.0	96.0	CORING			94 95		2.00	Sandstone — Light grey N7, fine to medium grained mostly fine grained, grains are subangular to subrounded, quartz grains are translucent at places, shelly fragments + pyrite present, yellow partings at places.
96.0	98.0	NON-			96 97		2.00	Sandstone — Light grey N7, fine to medium grained but mostly fine grained subangular to subrounded, yellow partings present, brown grains also present. Sandstone is Calcareous & sorted
98.0	100.00				98 99 100 1 2		2.00	Sandstone — Sandstone is medium to fine grained, generally fine grained, yellow partings present, brown + black grains present.

DRILL-HOLE NO UA7-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
100.00	102.0				101		2.00	Same as above
102.0	104.0				102		2.00	Same as above
104.0	106.0	CORING			103		2.00	Sandstone — Light grey N7 to medium light grey N6, grains are fine to medium, mostly fine grain, brown & black grains present may be ferruginous material. White grain present at places, but not common may be organic material, Sandstone grains are medium sorted
106.0	108.0				104		2.00	Sandstone — Light grey N7 to medium light grey N6, Sandstone is 90%, loose grains are subangular to subrounded, medium sorted
108.0	110.00	NON -			105		2.00	Sandstone as above
					106			
					107			
					108			
					109			
					110			
					1			
					2			

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								110.00
110.	110.22	0.22					0.22	Claystone Medium dark grey N5 to dark grey N3, medium hard, medium Compact, Sandy patches, Carbonaceous layers 110.22
110.22	Run 0.98 111.20	0.98	100%	–	1		0.98	Claystone with minor Sandy layers Medium dark grey N5 to dark grey N3 medium hard, Compact, Blocky when wet, Sandy patches & layers Carbonaceous thin laminae & layers, Coaly Specks
111.20	Run 2.07 113.27	1.85	89%		2		1.85	111.20 Claystone with alternate layers of Sandstone. Medium grey N5 to medium dark grey N4, medium hard, medium Compact, Sandy patches laminae & layers present, Siderite nodules Observed
					3		0.22	113.05 Core Loss
							0.12	113.27 Core Loss
113.27	Run 3.05 116.32	2.93	96%		113.39 4 114.10		0.71	113.39 Claystone medium grey N5 to medium dark grey N4, medium Compact Sandy patches & layers present. The Claystone & Sandstone ratio is 70:30
							0.56	Sandstone medium dark grey N5 to medium dark grey N4, Sandstone is medium Compact, medium hard, grain are fine to Coarse
					114.66		0.27	Claystone dark grey N3, Comparatively Compact, Sandy patches present 114.93
					114.93 5		0.40	Sandstone medium dark grey N4 to dark grey N3, Sandstone is hard Compact, well Cemented, Siderite nodules
					115.33		0.28	Claystone Dark grey N3, Sandstone lamination present. Claystone is Compact. Claystone & Sandstone ratio 80:20
					115.61 6		0.71	Silty Sandstone medium grey N4 to dark grey N3. Claystone & Siltstone layers present. Alternate layers of Sandstone & Claystone present. Siderite nodules present.
116.32	Run 3.05 119.37	2.80	91.8%		7		2.24	Siltstone medium dark grey N4 having alternate layers of claystone. The upper portion of the unit is Silty
					8			
					118.56 9		0.56	Sandstone medium dark grey N3 to dark grey N4, at places, Claystone and Siltstone present. Sandstone is Compact, well Cemented
	119.37				119.12		0.25	Core Loss
119.37	1.57	1.57	100%		120			Sandstone medium dark grey N3 to dark grey N4, Sand is medium to fine grained, Subangular to Subrounded.
					1			
					2			

CORING

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	120.94				120		1.57	Coaly Specks & clayey patches present at places. Sandstone is Comparatively loose near the upper limit. Siderite present.
120.94	Run 1.48	1.28	81%		121		1.20	Sandstone Medium light grey N6 to medium grey N5. Sandstone grains are fine to medium grain, Carby Specks present The upper layer is Comparatively hard than the remaining Sandstone, Pyrite observed
	122.42				122.14		0.28	122.14 Core Loss 122.42
122.42	Run 3.05	1.13	37%		123		1.13	Sandstone medium grey N5 to medium dark grey N4 Sandstone grains are generally fine grained, Comparatively loose near the upper limit, clayey patches present at places
	125.47				123.55		1.92	123.55 Core Loss 125.47
125.47	Run 2.68	1.20	44.7		126		1.20	Sandstone medium light grey N6, grains are fine to medium grain but mostly fine grain, Subangular to Subrounded
	128.15				126.67		1.48	126.67 Core Loss 128.15
128.15	37				128.35		0.20	Sandstone light grey N7, hard, compact, Coaly Specks present 128.35
	128.52	0.20	54%				0.17	Coreloss 128.52
128.52	3.05	3.05	100%		129		0.98	Claystone light grey N7 to medium light grey N6, claystone is hard, Compact. Siderite present. Sandstone present as patches & partings, Carby Specks present
					129.50		0.31	Carby Shale dark grey N3, hard Compact & well Cemented
					129.81		0.04	Sandstone
					129.85			Siltstone medium light grey N6 to medium grey, at places
					130			
					131			
					132			

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	131.57				131		1.72	alternate bands of siltstone & claystone & sideritic band present. Siltstone is compact & well cemented. Sandstone partings at places. Carby/Coaly specks present, lower part of this unit grades in to claystone
131.57					131.82		0.25	Claystone, medium grey N5 to medium dark grey N4, compact well cemented
					2		0.65	Sandstone medium light grey N6, loose at middle & lower portion. Sandstone grains subangular to subrounded.
					132.47			132.47
	RUN 3.05	Core 0.70			3		2.15	Core Loss
	134.62				4			134.62
134.62					5		0.54	Sandstone medium dark grey N4, fine grained loose, well sorted, at places clayey patches, carby specks present.
	137.67 (RUN 3.05)	2.36	77.3%		135.18		0.95	Sandy clay Light grey N7 & sandstone, clay is & medium dark grey N4, medium hard, medium compact. Sand grains are fine to medium, subrounded, sorted
					6		0.50	Sandstone Light grey N7, very fine to fine, subrounded sorted, hard, compact, claystone layers present
					136.13		0.35	sandstone light grey N7 to medium dark grey N4, fine grained soft, loose, friable
					136.48			136.98
					7		0.69	Core Loss
								137.67
137.67	RUN 3.05	0.30	9.8%		138		2.75	Core Loss
					139			
					140			
					1			
					2			

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DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Core Loss
140.72		20	72%		140.42			140.42
	140.72						0.30	Sandstone Light grey N7 to medium light grey N6, fine grained, Sub rounded, Sorted, Soft, loose at place, hard, Siderite 140.72
140.72								Sandstone with alternate claystone Light grey N7 to medium dark grey N4, Thin alternate patches of claystone present Subrounded, Sorted, medium hard, Compact Coaly Specks + partings, Siderite patches
					1		1.34	
	RUN 3.05	CORE 2.20			142.06			
					2		0.20	Sandy Clay Dark grey N3 to brownish black N, Seems Carbonaceous Coaly laminae at places
					142.26		0.16	Sandstone Dark grey N3, fine grained, Subrounded, Sorted, Soft in Nature 142.42
					142.42			
					3		0.85	Core Loss
					143.27			143.27
	143.77						0.50	Sandy Clay Dark grey N3, Thin laminae + patches of Sandstone present, medium hard Compact, Siderite in middle portion 143.77
143.77								
	RUN 1.14	0.65			4		0.49	Core Loss 144.26
					144.26		0.45	Siltstone, medium grey N5, Sandy Containing many thin grains Pyrite, Carbonaceous, Coaly flakes
	144.91				144.71		0.20	Coal Seam brownish black 5YR 2/1, Similar to Carby Shale, heavy brittle
144.91					5		0.59	Carby Shale, brownish black 5YR 2/1, hard, poorly and partly preserved plant fragments, Pyrite, minute patches, mostly breaks across the core length
	RUN 1.89	1.40			145.50		0.81	Sandstone alternate bands of medium light grey N6 + dark grey N3, Carbonaceous band + lamination Area Whole the unit is richly Carbonaceous, Sandstone is medium to coarse grained
					6			
	146.80				146.31		0.49	Core Loss 146.31
							0.02	CORE LOSS 0.02 146.80
146.82							0.08	COAL SEAM = Greyish black N2, blocky, pyritic, bearings, Comparatively high Sp. Gravity 146.82
					146.90		0.30	Carbonaceous shale - Dark gray N3, medium hard, medium compact, Carby specks, pyritic
					7			Sandy clay - Medium dark gray N4, medium hard, medium compact alternate layers, laminae and patches of clay and sand stone, more sandy in upper part, Carby specks, pyritic, rooted.
					147.20		0.97	
	RUN 3.03	1.35			8			148.17
					148.17			
					9		1.70	
	149.87							149.87
149.87					0			Sandstone - Light gray N7, med.-coarse grained, medium sorted, loose,
					1			
					2			

DRILL-HOLE NO WAT-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
149.87	RUN 3.05	.30	42.6		151.17		1.30	Sandstone - Light gray N7 to light olive gray 5YR6/1 medium to coarse grained, sub angular to subrounded, medium sorted, loose, sugary texture, grains are transparent to translucent, coaly specks, rare fossils
	152.92							151.17
					2		1.75	CORE LOSS
								152.92
152.92	RUN 3.05	0.95	31%		153			CORE LOSS
					4		2.10	
								155.02
					5			Sandstone - Light gray N7 to light olive gray 5YR6/1 medium - coarse grained, sub angular to subrounded,
	155.97				155.02		0.95	
								155.97
155.97	RUN 3.05	0.15			156			CORE LOSS
					7		2.90	
					8			158.87
	159.02				158.87		0.15	Sandstone - Medium gray N5 to medium dark gray N4 fine - medium grained, mostly medium grained, sub - angular to subrounded, poorly cemented, loose,
					9			159.02
159.02	3.05	0.60			0		2.45	CORE LOSS
					1			
					2			

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1		2.45	CORE LOSS
					161.47			161.47
	162.07				2		0.60	Sandstone - Light gray N7 to medium light gray N6, fine-medium grained, sub angular to sub rounded, at places loosely cemented, Coaly specks present
162.07					162.42		0.35	162.07
	1.48	0.35			3			SANDSTONE Light gray to med light gray, N7, med to fine subangular to subrnd grains, loosely cemented upper portion comparatively well cemented Coaly specks present
	163.55						1.13	162.42
163.55								CORE LOSS 163.55
					4		0.61	CORE LOSS 164.16
	1.57	0.96			164.16		0.37	SILTY SANDSTONE, Hard and compact. Fine to V.F grained Calcareous, Coaly specks present. Siderite nodules dark brown grains present
					164.53		0.32	SANDSTONE, Light Olive gray, to med gray. F to med subangular to subrnd grains, Clayey & Corby layers present Grades with Clay st.
	165.12				164.85		0.27	CLAYSTONE, with layers of SANDSTONE, med dark gray. Pockets of Sand Med to F, Subangular to subrounded grains Burrows, Carby specks present 165.12
165.12					5			SANDSTONE,
					6		2.15	Light gray N-7 F-Med grained, mostly med grained Subangular to subrnd, mostly subrnd. Micro fossils present. Dark brown to black grains present
	3.05	2.15			7			167.27
	168.17				167.27		0.90	CORE LOSS
					8			168.17
168.17								SANDSTONE, Same as above
	3.05	2.15			9		2.15	
					170			
					1			
					2			

Form 3a

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DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					170.32			170.32
	171.22				1		0.90	CORE LOSS 171.22
171.22							0.88	CORE LOSS 172.10
	174.27	2.17			172.10 2 3 4		2.17	Sandstone – Similar to upper unit, lowest 0.11 meter is medium gray N5 to dark gray N3, dark gray is due to carbonaceous and coaly material.
174.27	175.45	1.18			5		1.18	SILTSTONE, Med light gray N6, upper part med dark gray N4. Coarsening downwards. Clayey siltstone at top to fine sandstone at bottom. Pyritic in part top. Coal flakes and stringers in the upper and middle part. 175.45
175.45	177.32	1.50			175.82 6 7		0.37	CORE LOSS 175.82
							1.00	Sandstone – Pinkish gray 5YR 8/1 subrounded to rounded, sorted, rare brown grains of iron oxide, soft, loose, friable, quartz grains above 95%
					176.82		0.50	SANDSTONE, Med dark gray, N4 V. Fine grained, silty, coaly flecks observed at places. Grains subrounded, poorly sorted. Comparatively harder & compact
177.32	179.04	1.00			177.89 8 178.32 9		0.57	CARBONACEOUS SANDSTONE. Med gray N5 to med light gray N6, upper 15 cms coaly. Coal laminae throughout the unit. Very fine subangular grains.
							0.43	SANDSTONE. Pinkish gray 5YR 8/1. Med coarse grained, subrounded to rounded, sorted. Dominantly quartz grains. Brownish iron oxide tint also present
							0.72	CORE LOSS 178.32
179.04	180.37	1.36			179.07 0 1 2		0.03	CORE LOSS 179.07 179.04
							1.30	SANDSTONE, Light brownish gray 5YR 6/1 to pinkish gray 5YR 8/1 Basal 5 cms dusky yellowish brown 10YR 2/2. Med coarse grained sorted, subrnd to subangular, loose, soft. Dominantly quartz, few brown iron oxide grains. Basal 5 cms hard compact & Argillaceous

Form 3a

-563-

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
180.37	180.37							
		3.05	2.30		1		2.30	Sandstone – Pinkish gray 5YR 8/1 with brownish and blackish tint, medium to coarse grained, sub angular to sub rounded, well sorted, soft, loose, rich in quartz grains.
					2			182.67
					182.67		0.75	CORE LOSS
	183.42				3			183.42
183.42								Sandstone – very light gray N8 to Pinkish gray 5YR 8/1 medium to coarse grained, subangular to sub rounded soft, loose, transparent quartz grains dominating
		3.05	2.80		183.75		0.33	
					4			SANDSTONE. Same as above
					5		2.47	
					6			186.22
	186.47				186.22		0.25	CORE LOSS 186.47
186.47		1.64	53.7				0.98	SANDSTONE, Med light gray N6, upper 25cms pinkish gray 5YR 8/1, Med coarse Grained to fine grained. Med sorting, salty, subangular to subrounded, base, transparent quartz grains dominant Brownish iron oxide grains in the upper part 187.45
		3.05	1.64		7			
					187.45		1.41	CORE LOSS 188.86
					8			SANDSTONE. Calcareous, light gray N7, well cemented, dense, compact hard, orthoquartzite (?). Many burrows, brown colouration noticeably present Med coarse to fine grained, sorted, subrounded 189.52
	189.52				188.86		0.66	
189.52		1.38	1.20		9			CORE LOSS 189.70
					189.70		0.18	
					190			
					1			
					2			

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							1.20	Sandstone - Medium gray N5 to medium dark gray N4, fine to coarse grained, subrounded, sorted, calcareous, basal 15 cm grades to siltstone, black coloured unidentified grains
	190.90							
190.90					1		0.25	Claystone - Brownish gray 5YR 6/1, pyritized, coaly flakes, slicken side, concoidal fracture
		Run 1.67	Core 1.59		191.15		0.33	Carbonaceous shale - Dusky brown 5YR 2/2 to brownish black 5YR 2/1, lower part fissile, soft, coaly, pyritic patches.
					191.48		0.70	Claystone - Medium gray N5, silty at places, poorly preserved plant imprints, coaly specks abundant, sticky, very little fissility
					2			
					192.18		0.19	COAL SEAM - Brownish black 5YR 2/1, pyritic, resinous, plant imprints.
	192.57				192.37		0.12	Claystone - Brownish gray 5YR 4/1 to dusky brown 5YR 2/2, sticky, less fissility, coaly flakes, coalified woody material, minute slicken sided
192.57					192.49		0.08	192.49
	192.97	0.40	100%					192.57
192.97		1.17	43.8		193		0.40	CORE LOSS 0.08
								CLAYSTONE, Silty, dark gray N3, massive, pyrite present at places Coaly flecks rare
								192.97
							0.72	SANDSTONE, Pinkish gray 5YR 8/1 to Very light gray N8, fine grained Subangular, sorted, quartz rich, calcareous.
		Run 2.65			193.69			
			1.17		4		0.45	SANDSTONE, Med dark gray, N4, Fine to V. Fine grained, subangular to subrounded Silty at places. Medium grade sorting Massive to laminated. Siderite nodule present.
					194.14			194.14
					5		1.48	CORE Loss
								195.62
	195.62							
195.62		1.21	100%		196		1.21	Silty Sandstone - Dark gray N4, fine grained, subangular to subrounded, silty and clayey, medium hard, medium compact, Carby specks, siderittic patches, pyritic, becomes clayey towards lower part.
		1.21						
196.83		1.85	61.7%		197.01		0.18	Siltstone - Medium dark gray N4, very hard, well compact, Calcareous patches
					197.13		0.12	Calcareous Sandstone - Very Light gray N8, fine to med. grained, calcareous, silty
							0.26	Claystone - Silty S.St
					197.39		0.83	Claystone - Medium dark gray N4 to dark gray N3, medium hard, medium compact, silty, siderittic nodules, Carby specks, Calcareous veins present in lower part.
		3.05			8			
					198.22		0.46	Sandy clay - Medium dark gray N4 to dark gray N3, medium hard medium compact, Sandy patches, Carby specks, burrowed.
					198.68			198.68
							1.20	CORE LOSS IN SANDY CLAY.
					9			
								199.88
	199.88							
199.88					0		0.71	Sandy clay - Dark gray N3, alternate layers and laminae of Sandstone and Clay
					1			
					2			

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	Run 2.00	2.00			200.59		0.71	Sandy clay - Dark gray N3, alternate layers and laminae of sandstone and clay, medium hard, medium compact, Carby specks, Sideritic, Coaly patches present at bottom.
					1		0.72	Claystone - Light gray N7, medium hard, medium compact, sticky, Carby specks, seems to be rooted.
	201.88				201.31		0.30	Siltstone - Light gray N7, hard, Compact, Sandy, Clayey, rare Carby specks
					201.61		0.27	Carbonaceous shale - Dark gray N3 to Grayish black N2, medium hard, compact
201.88	1.12	1.12	100%		202		1.12	Siltstone - Dark gray N3, hard, Compact, Sandy, Carby and Coaly specks and patches present, more Sandy in lower part.
	203.00				203		0.28	Siltstone Sandstone - Medium dark gray N4, fine grained, sub rounded sorted, silty matrix, Carby partings
203.00		2.90	100%		203.28		0.78	Siltstone - Medium dark gray N4, hard, Compact, Sandy, Carby specks and partings, at places thin hard sandstone patches.
	2.90				204.06		0.20	Siltstone - claystone 204.26
					204.26		0.40	COAL SEAM - Grayish black N2, blocky, pyritic, resinous, highly pyritic in lower part, lower 0.09m has Calcareous patches 204.66
					204.66			
					5		1.24	Siltstone - Dark gray N3, medium hard, medium compact, Sandy Coaly and Carby specks in upper part, becomes clayey towards lower part.
	205.90							
205.90		2.05	100%		206		0.75	Silty Claystone - Medium dark gray N4, medium hard, Compact, Silty at places, sandy at places, Coaly specks rare, one Sandstone layer with high specific gravity present in lower part
	2.05				206.65		0.92	Silty Sandstone - Medium dark gray N4, fine to medium grained, sub-rounded, sorted, with silty matrix, Coaly partings rare
					7			
					207.57		0.38	Claystone - Medium dark gray N4, medium hard, compact, sticky Carby partings and specks, slicken side present
207.95		1.65	100%		208		0.55	Carbonaceous shale - Dark gray N3 to Grayish black N2, more Carby towards lower part, med. hard, med. compact, resinous
	1.65				208.52		0.92	Silty Claystone - Medium dark gray N4, medium hard, compact, silty & Sandy patches present, Carby and Coaly specks, slicken side present
					9			
	209.60				209.42		0.18	Claystone - Light gray N7, hard, Compact, Silty, Sandy patches, Coaly specks
209.60		1.05	100%		209.87		0.27	Carbonaceous Shale - Dark gray N3 to Grayish black N2, medium hard, Compact Coaly and Carby specks
					0		0.78	Claystone - Medium dark gray N4, hard, medium compact
					1			
					2			

Form 3a

-566-

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	210.65						0.78	Claystone – Medium dark gray N4, medium hard, medium compact Coaly flakes and Carby specks, silty at places, resin present.
210.65	211.10	0.45	100%		211		0.45	CLAYSTONE, Light gray N7 to medium light gray, mid part more hard, silty Coaly specks and partings. Sandy at places. Resinous in lower part.
211.10	211.60	0.50	50				0.50	Claystone – Medium dark gray N4, medium hard, compact, slightly silty in middle part, Carby and Coaly specks. 211.60
211.60	214.50	2.90			212 3 213.15 213.31 213.83 213.96 4		1.55	Claystone – Medium dark gray N4, medium hard, compact, sticky, slightly sandy at places, Carby specks rare seems to be rooted
							0.16	COAL SEAM – Grayish black N2 to black N1, blocky, resinous, pyritic 213.15
							0.52	Claystone – Medium dark gray N4 to Dark gray N3, medium hard, medium compact, Coaly specks and partings rare, seems rooted 213.31
							0.13	COAL SEAM – Grayish black N2 to black N1, blocky, Clayey patches 213.83
							0.54	Claystone – Medium dark gray N4, medium hard, compact, sticky, seems to be rooted, Carby and Coaly specks. 213.96
214.50	216.65	2.15	100%		214.80 214.92 5 6		0.30	Silty Sandstone – Medium dark gray N4, very fine to fine grained, subround-ed, sorted, silty matrix, lower part is almost Claystone 214.80
							0.12	COAL SEAM – Grayish black N2 to black N1, blocky, pyritic, resinous 214.92
							1.73	Claystone – Medium dark gray N4, medium hard, compact, sticky sandy in middle part, seems rooted, Coaly and Carby specks, silty at places, micaceous.
216.65	218.90	1.30	57%		216.75 7 217.95 8		0.10	Silty Clay – Medium dark gray N4, medium hard, Compact, Silty, Sandy, Coaly specks
							1.20	Sandstone – Light gray N7, very fine to fine grained, Subrounded, sorted, hard, well compact, above 95% Silica grains, Coaly and Carby specks, looks Cross-bedded? 217.95
							0.95	CORE LOSS- 218.90
218.90	220.25	NIL	0%		219		1.35	CORE LOSS IN SANDSTONE
					220 1 2			

DRILL-HOLE NO VAT-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	220.25							CORE LOSS IN SANDSTONE 220.25
220.25	221.95	0.78			221		0.78	Sandstone – Light gray N7, medium to coarse grained, sub-rounded, sorted, soft, loose, friable, shale fragments probably of overlying beds, rare ferrogenous grains, Carby shale particles, Silica percentage above 95% 221.03
							0.92	CORE LOSS 221.95
221.95	223.50	0.65	42%		222		0.65	SANDSTONE, Same as above 222.60
					222.60 3		0.90	CORE LOSS 223.50
223.50	225.00	0.57	38%		224		0.57	Sandstone – Light gray N7, medium grained, sub-rounded, poorly sorted, soft, loose, friable, Coaly fragments present, rare dark heavy mineral grains, Silica grains above 95% 224.07
							0.93	CORE LOSS 225.00
225.00	225.20	0.60	40%		225		0.20	SANDSTONE, Same as above 225.20
	226.45				225.20		0.40	Sandstone – Med dark gray N4. fine grained. grained, sub rounded, Sorted, soft, loose, friable, muddy, Coaly fragments, Silica grains above 90% 225.60
					225.60 6		0.85	CORE LOSS 226.45
226.45	228.05	0.73	45%		227		0.73	Sandstone – Light gray N7 to medium light gray N6, Coarse grained, sub-rounded, poorly sorted, soft, loose, friable, silty shale fragments, Coaly and Carby fragments, above 90% Silica grains 227.28
					227.28 7		0.77	CORE LOSS 228.05
228.05	229.70	0.75	45%		228		0.75	Sandstone – Light gray N7, Coarse grained, sub rounded, soft, loose, friable, Carby and Coaly fragments 228.80
					228.80 9		0.90	CORE LOSS 229.70
229.70		0.55	39%		230			
					2			

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	231.10				230.15		0.55	
231.10		0.65	52%		1		0.85	Sandstone – Light gray N7, coarse grained, sub rounded, sorted, soft, loose, friable, silty shale fragments, carby shale and coaly fragments, above 90% silica grains
	232.35				231.75		0.65	CORE LOSS 230.25
232.35		0.86	57%		2		0.60	231.10
	234.10				233.13		0.88	Sandstone – Light gray N7, fine to medium grained, sub rounded sorted, soft, loose, friable, carby shale and coaly fragments, above 90% silica grains
234.10		0.75	68%		3		0.90	CORE LOSS 231.75
	235.60				234.85		0.75	232.35
235.60		1.0	66%		4		0.50	Sandstone – Light gray N7, medium grained, sub-rounded, sorted, soft, loose, friable, above 95% silica grains carby and coaly and shaley fragments 233.13
	237.10				236.10		1.00	CORE LOSS 234.10
237.10		2.45	81%		5		1.75	SANDSTONE, Light gray N7, Med grained, subrounded, sorted, friable, Coaly and carby shale fragments. 95% quartz grains 234.85
	240.10				238.85		0.28	CORE LOSS 235.60
					239.13		0.11	CORE LOSS 236.10
					239.24		0.22	Claystone – Medium dark gray N4, medium hard, compact, silty and sandy at places, rooted, burrowed, un-identified dirty white mineral grains, carbonized plant material. 237.10
					239.46		0.64	Siltstone – Light gray N7, hard, compact, sandy at places, middle and lower part has carbonaceous and coaly specks and partings. 238.85
					240.10			Claystone – Medium dark gray N4, medium hard, compact, silty, carby and coaly specks, slicken sides 239.13
								Carbonaceous shale – Dark gray N3 239.24
								Sandstone – Medium dark gray N4, medium grained, sub-rounded, muddy, medium hard, compact 239.46
								CORE LOSS 240.10

RUN 3.00

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								240.10
240.10	RUN 1.50	0.50			240.60 T		0.50	SANDSTONE, Light gray N7, Yellowish gray 5Y7/12, Med grained rounded to subrounded. Well sorted, hard, compact calcareous at places. Quartz grains 95%, Few Fe-Mg grains small calcareous patches. Laminations probably cross bedding at one place 240.60
	241.60						1.00	CORE LOSS 241.60
241.60	1.55	0.70			242.30 2		0.70	SANDSTONE, Light gray N-7, Yellowish gray 5Y7/12, med grained rounded, well sorted, friable. Quartz grains 95%. Carby and shaly fragments. Few ferromagnesium grains 242.30
	243.15				3		0.85	CORE LOSS 243.15
243.15	1.68	Nil	0%		244		1.68	CORE LOSS IN SANDSTONE 244.83
244.83	1.40	Nil	0%		245 246		1.40	CORE LOSS IN SANDSTONE 246.23
246.23	1.60	0.15	9%		247		1.45	CORE LOSS IN SANDSTONE 247.68
	247.83				247.68		0.04	SANDSTONE light grey N/7, medium grained, subrounded to rounded, Sorted, Hard, Compact, Silty Cementing matrix, Clayey partings & patches present, rare Fe-Mg mineral grains. 247.72
							0.11	CLAYSTONE dark grey N-3, medium hard, medium compact Silty, Sandy, carby shale and Coaly patches. 247.83
247.83	1.05	0.35	33%		248 8		0.70	CORE LOSS probably in Coal horizon. 248.53
	248.88				248.53		0.05	COAL SEAM greyish black N-2, blocky, Sandy, burrowed, burrows Lined with Sand. Pyritic 248.58
					248.58		0.30	CLAYSTONE dark grey N-3, medium hard, compact, looks more carby in upper part, Coaly specks, present rooted, Compression Slickensided. Carbonized plant matter Vertical and oblique rooted? Upper part burrowed burrows filled with Sand (med to coarse grained qtz) 248.88
248.88	2.00	Nil	%		249 0		2.00	CORE LOSS. 250.88
	250.88				1 2			

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
250.88		1.81	59%		251		1.06	SILTSTONE.
	253.93 (3.05)				252		0.75	SANDSTONE.
					252.69			252.69
					3		1.24	CORE LOSS IN SANDSTONE
								253.93
253.93		0.30	9.8%		254		0.30	SANDSTONE light grey, medium to coarse grained, sub-angular to subrounded, poorly sorted, medium hard. quartz 95-98%, 3-4% small dirty white carbonate patches of calcite? upper 3-5 cms with gritty or pebbles of quartz
					254.23			254.23
	256.98 (3.05)				255		2.75	CORE LOSS IN SANDSTONE.
					256			
256.98		Nil	%		257			256.98
					258		3.05	CORE LOSS IN SANDSTONE
	260.03 (3.05)				259			
					260			260.03
					1			
					2			

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								260.03
260.03	1.50	N.I	0%		260		1.50	CORE LOSS IN SANDSTONE.
	261.53				1			261.53
261.53	1.50	0.58	38%				0.40	SANDSTONE Light grey N/7, medium to coarse grained subangular to subrounded, poorly sorted, medium hard, quartz 95-98% with few small patches of calcite? few siltstone and silty claystone laminae 1.5mm thick in the upper part.
					261.93 2		0.18	CLAYSTONE light grey N/7, medium hard med compact silty with up to 1cms thick bands of sand stone probably cross laminae.
	263.03				262.11		0.92	262.11
					3			CORE LOSS. 263.03
263.03	1.97	N/I	0%					
	265.0				4		1.97	CORE LOSS.
					5			265.00
265.0	1.08	0.27	25%				0.27	CLAYSTONE Light grey N/7, med. hard medium compact sticky
					265.27 6		0.81	265.27 CORE LOSS
	266.08							266.08
266.08	3.00	1.34	44%				0.70	CLAYSTONE med dark grey N/4. medium hard, compact, silty bands at places, burrows filled with fine to medium grained, quartz sand.
					7		0.21	SANDSTONE with 4cms band of sand stone. light grey N/7, medium to coarse grained, rounded, moderately sorted hard compact. Grains fines downwards. quartz >95% rare Fe-mg mineral grains, occasional small Calcite patches.
					268.42 8		0.43	CLAYSTONE medium dark grey N/4, medium hard Compact few small burrows. lower 7cms is sandstone light grey N/7, Coarse grained, rounded & sorted. Calcite Patches present. 267.42
	269.08				9		1.66	CORE LOSS IN SANDSTONE. 269.08
269.08	1.92	Nil	0%				1.92	CORE LOSS IN SANDSTONE
	271				0 1 2			271.00

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					1		0.03	CORE LOSS IN SANDSTONE SANDSTONE. Light grey N/7, V. fine to fine grained Subrounded, poorly sorted, Soft. medium Compact. 271.03
271.03	272.08 (1.08)	0.50	46%		271.03		0.47	COAL greyish black N/2 to black N/1, soft, brittle, shale fragments in the upper half, probably sand filled burrows in the lower part. pyritic, resinbous UAT-4-2 Bag 1 (0.12m) Shaly coal, Bag 2 (0.35m). dirty coal 271.50
					271.50		0.58	CORE LOSS 272.08
272.08	275.08 (3.00)	0.56	18%		272.08		0.11	CLAYSTONE, med, dk. grey N/4, med hard Compact top burrowed, filled with fine gr, well sorted rounded quartz sand rare Fe-mg minerals. claystone is silty with sandstone layers up to 1 cm. Claystone sandstone ratio 70:30 SANDSTONE, lt grey N/7, Subrounded, moderately sorted. quartz up to 85%, Fe. mg mineral grains 10-15%. occasional small patches of fine grained / disseminated Pyrite
					272.64		0.45	SANDSTONE med light grey N/6. Fine grained Subrounded, moderately Sorted, hard, compact, Carbonized plant debris present in patches & specks. irregularly distributed. Fe-mg minerals rare. Some light green unidentified mineral grains observed. 272.64
					275		2.44	CORE LOSS IN SAND STONE 275.08
275.08	278.08 (3.00)	1.10	36%		276		1.40	CORE LOSS IN SANDSTONE 276.98
					276.98		0.21	SANDSTONE med. lt. grey N/6. Fine grained Subrounded. moderately sorted, hard, Compact, Carbonaceous matter in the Unit above Core loss. Carb. laminae 1-2 mm. along bedding planes. At Some place irregular / deformed carbonaceous wisps
					277		0.89	CLAYSTONE lt. gy. N/7, muddy, Sandy upper part Cab. band 3 cms in upper part Lr. pt. Slightly Silty & less sandy few carby laminae & specks. Becomes sandy towards base.
278.08	281.08	1.65	55%		278		0.60	SANDSTONE lt gy. N/7. 6 cms Silty clay bed. Sand fine, rounded, mod. sorted hard, compact. Quartz 95% occasional green mineral grains. Carby inclusions in Lr. half. probably rooted.
					278.68		1.05	CLAYSTONE with minor Sand stone. dk gy. N/3 with minor bands of sandy clay 5-10 cm. at 40 cms from base. med hd. Compact, alternate laminae of claystone and silty Sandstone. claystone carb laminae along bedding planes. at places pyritic.
					279.73			279.73
					280			CORE LOSS . IN SANDSTONE
					1			
					2			

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	281.08				281		1.35	CORE LOSS IN SANDSTONE
								281.08
281.08	281.73	0.65	21%				0.20	CLAYSTONE lt.gy. N/6. med hard, med compact, Sandy. Sand medium to coarse.
	3.05				281.73		0.45	SANDSTONE lt.gy N/7, Fine grained Subrounded, few rounded, moderately sorted, friable, rare coaly speck, quartz >95%, rare Fe-mg. minerals. Lr. 10cms is hard compact & slightly calcareous.
					282			
					283		2.40	CORE LOSS IN SANDSTONE
	284.13				284			
								284.13
284.13	284.93	0.80	26%				0.80	SANDSTONE Light grey N/7, Coarse grained, fine to medium grained in lower part. fine downwards rounded, poorly sorted, hard compact, quartz >95% rare Fe-mg mineral grains. clay clasts ?.
	3.05				284.93			
					285			
					286		2.25	CORE LOSS IN SANDSTONE
					287			
	287.18							287.18
287.18	287.53	0.35	27%		287.53		0.35	SANDSTONE lt. grey N/7 to med. lt. grey N/6. med grained, subrounded, sorted, friable, rare Fe-mg mineral grains carbonaceous sh. & coaly fragments. <1mm thick frags. quartz >95%
	1.30				288		0.95	287.53
	288.48							CORE LOSS IN SAND STONE
								288.48
288.48	288.63	0.15	8.8%		288.63		0.15	SANDSTONE lt. grey N/7, fine grained Subrounded, sorted friable, rare Fe-mg. mineral grains. carby & coaly specks fragments <0.5mm. quartz 95-98%.
	1.70				289			288.63
					0		1.55	CORE Loss
	290.18							290.18
					1			
					2			

DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
290.18	291.78 (1.60)	Nil	0%		291		1.60	290.18 CORE LOSS IN SANDSTONE 291.78
291.78	293.18 (1.40)	Nil	0%		292 293		1.40	CORE LOSS 293.18
293.18	296.18 (3.00)	2.80	93%		294 5 295.28		2.10	SILTSTONE lt. bluish grey 5B 7/1 Sandy, hard, compact burrowed. more sandy & more burrowed in upper part. burrows filled with Very Coarse Sand grits/pebbly >2mm quartz grains. Scattered carb. matter in small patches and occasional <0.5 mm laminae. grades down to Clay Stone.
					295.98 6		0.70	CLAYSTONE med. dk. grey N/4, med hard compact slightly sandy silty. Small patches and specks of Carbonaceous matter 295.98
							0.20	CORE LOSS 296.18
296.18	299.18 (3.00)	3.0	100%		296.42 296.60 296.70 7 297.05 297.67 297.88 8 298.16 298.26 299		0.24	CLAYSTONE same as above
							0.18	CARB. SHALE dark grey N-3 - greyish black N/2 med. hard, compact Pyritic, more pyritic in lower part.
							0.10	DIRTY COAL. greyish black N/2, to black N/1, blocky, shaly, Pyritic.
							0.35	CARB. SHALE dark gy. N/3 to greyish black N/2, Pyritic, med hard, Compact, lower part becomes silty.
							0.62	SILT STONE. med. dk. grey N/4, sandy, rooted, underclay. few Carbonized plant debry probably along bedding planes.
							0.21	CLAYSTONE greyish black N/2 to black N/2. Pyritic, silty. more carby matter than overlying Carby shale.
							0.28	COAL dk gy. N/3 to black N/1, blocky, Pyritic, plant impressions UAT-4-3
							0.10	CARBY SHALE dk gy. N/3, med hard med compact pyritic.
							0.92	CLAYSTONE med. dk. gy N/4, med hard compact, rooted. Carbonized plant debry. Underclay.
299.18	301.48 (2.30)	2.30	100%		299.38 300 1 2		0.20	CLAYSTONE with quartz pebbles >2mm, lt. grey N/7, soft, med Compact pebbly.
								CLAYSTONE med lt. gray N/6, silty, Carbonaceous specks and patches, underclay. rooted. Contd

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DRILL-HOLE NO UAT-4

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					301		2.10	CLAYSTONE medium light grey N/6 silty medium hard, medium compact. Carbonaceous specks & Patches, rooted. Under clay.
301.48								301.48
301.48		2.55	100%				0.40	CLAYSTONE Same as above
	304.03	2.55			301.88 2 303		2.15	SILTSTONE light bluish grey, 5B 7/1, medium dark grey N/4, med. hard Compact. Sandy layers present. Coaly and Carb. shale specks, rare pyrite grains.
304.03		0.80	100%		304		0.38	CLAYSTONE med dk gy. N/4, med hd. Compact, sticky, Compressional Slickensided. Carby specks.
	304.83	0.80			304.41 304.46 304.80		.05 .34 .02	CARBY SHALE 5 chgs. dark grey N/3 - Greyish black N-2, med, hard, Compact Coaly & Carby Specks. bclonks more Coaly downwards. COAL. Greyish black N/2, black N/1. Blocky Pyritic. rare resin thin Vitrinite bands.
304.83		3.00	100%		5 305.03		0.20	CARBYSHALE Gy blk N/2, med hard Compact. Coaly Specks Vitrinite bands. CARBY SHALE / DIRTY COAL. Greyish black N/2 to black N-1, blocky, resinous, pyritic. Coaly & Carby specks decrease downwards.
	307.83	3.00			306 307		2.80	SILTY CLAYSTONE dark grey N/3, in upper part. Lower part medium dark grey N/4, medium hard compact. Carby in upper part: sandy and silty at placco.
307.83		1.10	58.4					307.83
	309.78	1.95			8 308.68 9		0.85	CORE LOSS.
307.83								308.68
							1.10	CLAYSTONE. Silty, medium-light grey N/6, medium hard, Compact, Slightly Sandy, sand grains fine. few specks and patches of Carbonaceous matter.
307.83	309.78							309.78
					310 1 2			THE END. T.D 309.78

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								0.00
0.10					1		2.0	LIMESTONE: light yellowish brown, hard cutting, formaniferal, sandy. fine to med grained, subangular to subrounded 2.00
	2.00		CORING		2			SHALES/LIMESTONE: light yellowish brown, silty sandy. formaniferal. fine to medium grain Subangular to subrounded; highly calcareous.
4.00					3		2.0	4.00
			NON		4			SHALES/MARL: light yellowish brown, Soft Silty, sandy. fine grained, Subrounded, highly calcareous.
	6.00				5		2.0	6.00
			CORING		6			SHALES/MARL/LIMESTONE: light yellowish brown, soft to hard, silty sandy, fine to med gr. subangular to subrounded, highly calcareous.
8.00					7		2.0	8.00
			NON		8			LIMESTONE/SHALES (BED C) light brown, hard cutting formaniferal slightly sandy, fine grained, mostly subrounded grains, brown, shale partings
	10.00				9		2.0	10.00
					0			
					1			
					2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								10.00
10.0		NON-CORING			11		2.0	LIMESTONE: "BED C" richly formaniferal, shaley partings reduced and same as above.
								12.00
	12.0	NON-CORING			12 13		2.0	SHALE: light yellowish brown, limestone cutting from upper part of the hole gypseous, silty, sandy, fine to medium gr, sub angular to subrounded, formaniferal
								14.00
14.0		NON-CORING			14 15		2.0	SHALE: light yellowish brown and same as above.
								16.00
	16.00	NON-CORING			16 17		2.0	SHALE: Medium brownish gray and same as above.
								18.00
18.0		NON-CORING			18 19		2.0	SHALE: same as above.
								20.00
	20.0				20 1 2			

DRILL-HOLE NO UAI-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								20.00
20.0					21		2.0	SHALE: Same as above.
								22.00
	22.00				22			SHALE: Same as above
					23		2.0	
								24.00
24.0					24			SANDY SHALE: light brownish gray. fine to coarse sand, mostly fine grained and sub-rounded grains. calcareous, limestone cutting from upper part of the hole.
					25		2.0	
								26.00
	26.00				26			SANDY SHALE: Same as above.
					27		2.0	
								28.00
28.00					28			SHALE: Slightly sandy and same as above
					29		2.0	
								30.00
	30.0				30			
					1			
					2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								30.00
30.0					31		2.0	SHALE / LIMESTONE: light gray, hard limestone cutting, gypseous cutting, slightly sandy, formaniferal, mostly subrounded grains.
								32.00
	32.0				32			
					33		2.0	LIMESTONE: light yellowish gray, hard cutting of limestone, formaniferal slightly sandy fine grained sst, mostly subrounded grains weathered.
								34.00
34.0					34			
					35		2.0	SHALE: light yellowish gray, sandy, fine to medium sst, mostly subrounded grains calcareous, gypseous, silty, limestone cutting from upper part of the hole
								36.00
	36.0				36			
					37		2.0	SANDSTONE: light gray, soft, fine to medium grained, few coarse grained mostly subrounded grains, calcareous, few sst cutting from upper part of the hole
								38.00
38.0					38			
					39		2.0	SANDSTONE / SHALE Light gray, fine to medium grained sst soft, mostly subrounded grains, calcareous Shaley.
								40.00
	40.0				40			
					1			
					2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								40.00
40.0					41		2.0	SANDY SHALE: light yellowish gray silty. Sandy, fine gr sst mostly subrounded grains calcareous, few gypsum cutting
					42			42.00
	42.0		NON-CORING		43		2.0	SANDY SHALE ; Same as above.
					44			44.00
44.0					45		2.0	SHALE/LIMESTONE : light yellowish brown hard limestone cutting foraminiferal, silty sandy, fine to medium, mostly subrounded grains, gypseous, foraminiferal
			1		46			46.00
	46.0				47		2.0	LIMESTONE : light yellowish gray, hard limestone cutting (foraminiferal rich) sligtly sandy, fine gr, mostly sub-rounded graens
					48			48.00
48.0			NON-CORING		49		2.0	SANDY SHALE: Light yellowish brown silty, sandy, fine to medium grain calcareous Limy cutting from upper part of the hole.
					50			50.00
	50.0				1			
					2			

Form 3a

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DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								50.00
50.0					51		2.0	SANDSTONE: Light gray, soft, fine to medium gr, mostly subrounded grains calcareous, few coarse grained, mostly quartzitic
					52			52.00
	52.0				53		2.0	SANDSTONE: Same as above
					54			54.00
54.0					55		2.0	SANDSTONE: Same as above.
					56			58.00
	66.0				57		2.0	SANDSTONE: Same as above.
					58			58.00
58.0					59		2.0	SANDSTONE: Same as above.
					60			60.00
	60.0				1			
					2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								60.00
60.0			NON-CORING.		61		2.0	SHALEY SANDSTONE : Light gray. fine to medium gr. SST, mostly subrounded gr calcareous.
								62.00
	62.0				62			SANDY SHALE : few coarse gr, sst gypseous, and same as above.
					63		2.0	
								64.00
64.			NON-CORING		64			SANDY SHALE : Same as above.
					65		2.0	
								66.00
	66				66			SANDY SHALE : Same as above.
					67		2.0	
								68.00
68			NON-CORING		68			SANDY SHALE / LIMESTONE : light Brownish gray limestone / hard cutting, foraminiferal Silty sandy, fine gr SST, mostly subrounded grains
					69		2.0	
								70.00
	70.				70			
					1			
					2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								70.00
70.0		NON-CORING			71		2.0	LIMESTONE: Light brownish gray, hard cutting of limestone, silty, sandy, fine mane foral fine gr sst, mostly subrounded gr.
								72.00
	72.0				72			
					73		2.0	LIMESTONE: light brownish gray, hard cutting of lst, (for manifral)
								74.00
74.0		NON-CORING			74			
					75		2.0	SANDSTONE: Light gray, soft, fine to med gr, mostly subrounded gr, very slightly clayey, few lime stone cutting from upper part of the hole.
								76.00
	76.0				76			
					7		2.0	SANDSTONE: Same as above.
								78.00
78.0		NON-CORING			78			
					79		2.0	Silty clay: light gray. soft, slightly sandy. fine gr sst, mostly subrounded grain, calcareous
								80.00
	80				80			
					1			
					2			

BARA FORMATION

LAKHRA FORMATION

NTACT

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								80.00
80.		NON-CORING			81		2.0	SANDY CLAY: Light gray, fine to med gr mostly subrounded grains. calcareous,
					82			82.00
	82.				83		2.0	SANDSTONE: light gray, fine gr. few medium grained, mostly subrounded grains, slightly clayey, calcareous.
					84			84.00
84.		NON-CORING			85		2.0	SANDSTONE: Same as above.
					86			86.00
	86.				87		2.0	SANDSTONE: light gray, soft to medium gr. mostly subangular gr. not calcareous.
					88			88.00
88.		NON-CORING			89		2.0	SANDSTONE: Same as above
					90			90.00
	90.				1			
					2			

Form 3a

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DRILL-HOLE NO VAI-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								90.00
90		NON-CORING			91		2.0	SANDSTONE: (Silica Sand) mostly quartz grains and same as above.
								92.00
	92				92			
					93		2.0	SANDSTONE: (SILICA Sand) few coarse grained are subrounded and same as above
								94.00
94					94			
		NON-CORING			95		2.0	SANDSTONE: clayey and same as above.
								96.00
	96				96			
					97		2.0	Sandstone: clayey and same as above.
								98.00
98					98			
		NON-CORING			99		2.0	Sandy clays: Medium gray, fine to med gr mostly subrounded grains salty, not calcareous.
								100.00
	106				100			
					2			

DRILL-HOLE NO UAI-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								100.00
100.		NON-CORING			101		2	SANDYCLAYS: Same as above.
					102			102.00
	102							SANDYCLAYS: Same as above.
					103		2	
								104.00
104		NON-CORING			104			SANDYCLAYS: Same as above.
					105		2	
								106.00
	106				106			SANDSTONE: Light gray, fine gr, mostly subrounded grains, soft, not calcareous.
					107		2	
								108.00
108		NON-CORING			108			SANDSTONE: Same as above
					109		2	
								110.00
	110				110			
					1			
					2			

Form 3a

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								110.00
110		NON-CORING			1		2.0	SANDSTONE: light gray. fine gr, soft, mostly subrounded grain, slightly clayey. carby parting present, calcareous
								112.00
	112				2			
					3		2.0	SANDSTONE: light gray, soft, fine to med gr. mostly subrounded grains, very slightly clayey, calcareous mostly, quartz grains
					4			114.00
114		NON-CORING			5		2.0	SANDSTONE: clayey, same as above
					6			116.00
	116				7		2.0	SANDY CLAYS: light gray, silty, fine to med gr sst. mostly subrounded grain clayey, slightly calcareous
					8			118.00
118		NON-CORING			9		2.0	SANDSTONE: light gray, fine to medium gr, subangular to subrounded grains clayey, very slightly calcareous.
					0			120.00
	120				1			
					2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								120.00
120		NON-CORING			121		2.0	SANDY CLAYS : Medium gray fine to medium SST, mostly subrounded grain few subangular grain. slightly calcareous
					122			122.00
	122				123		2.0	SANDY CLAYS: Sandy part, increased Same as above.
								124.00
124		NON-CORING			125		2.0	SANDSTONE : Light gray, fine to medium grained, mostly subrounded grain clayey. few carb parting present, not calcareous
					126			126.00
	126				127		2.0	SANDY CLAYS : Medium gray, fine to medium grained. mostly subrounded gr, few carb parting present, not calcareous
								128.00
128		NON-CORING			129		2.0	SANDSTONE: Light gray, fine to medium gr, subangular to subrounded grain soft, slightly clayey, not calcareous
					130			130.00
	130				1			
					2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								130.00
130		NON-CORING			131		2.0	SANDSTONE: clayey. Same as above.
								132.00
	132				132			
					133		2.0	SANDSTONE: clayey, Same as above.
								134.00
134		NON-CORING			134			
					135		2.0	SANDSTONE: clayey. Same as above
								136.00
	136				136			
					137		2.0	SANDSTONE: clayey. Same as above
								138.00
138		NON-CORING			138			
					139		2.0	SANDY CLAY: Medium gray. fine to Medium sand, subangular to subrounded gr. few Coarse gr. sst, calcareous.
								140.00
	140				140			
					1			
					2			

Form 3a

-590

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								140.00
140		NON-CORING			141		2.0	SANDSTONE: light gray, fine to coarse grained mostly rounded grains soft, very slightly clayey, not calcareous mostly quartz grains.
					142			142.00
	142				143		2.0	SANDSTONE: Same as above
					144			144.00
144		NON-CORING			145		2.0	SANDSTONE: Same as above
					146			146.00
	146				147		2.0	Sandstone: Same as above
					148			148.00
148		NON-CORING			149		2.0	Sandstone: Same as above.
					150			150.00
	150				1			
					2			

Form 3a

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								150.00
150	152				1 2		2.00	SANDSTONE, Light gray, fine to medium grained subangular to subrounded, Not calcareous slightly Clayey. 152
152	154				3 4		2.00	SANDSTONE, Gray coloured, fine to coarse grained Poorly sorted. Dominantely subrounded quartz grains. Appears friable clean sandstone. 154
154	156	NON CORING			5 6		2.00	SHALE, Sandy, Gray coloured. Maybe Sandstone-shale interbedded or Shale with sand grains from top beds. 156
156	158				7 8		2.00	SHALE, Sandy, Same as above. 158
158	160				9 0		2.00	SANDSTONE, Light gray, Dominantely fine, few medium and rare coarse grains. Subangular to sub-rounded. Dominantely transparent quartz grains. Probably friable sandstone. Few fragments of carbonaceous matter/Coal, some pyrite. Sandstone comparatively clean 160
					1 2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								160.00
160	162				1		2.00	SANDSTONE, Light gray, fine to medium grained, Coarse grains very rare. Smaller grains subangular Larger grains subrounded. Dominantely quartz grains. 162
162	164				3		2.00	SANDSTONE, Same as above 164
164	166	NON CORING			5		2.00	SANDSTONE, Light gray, fine to medium grained Mostly subrounded grains, Non calcareous, Soft, friable. Few very fine black partings of heavy mineral. Mostly quartz grains 166
166	168				7		2.00	SANDSTONE, Same as above 168
168	170				9		2.00	SANDSTONE, Light gray, soft, fine to medium, mostly subrounded grains. Carbonaceous material present, some pyritic. Carb fragments present 170
					2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								170.m
170	172				1 2		2.00	SANDSTONE, Same as above and few coaly fragments 172
172	174				3 4		2.00	SANDSTONE, Slightly clayey and slightly calcareous Light gray, fine to medium grained Mostly subrounded grains 174
174	176	NON CORING			5 6		2.00	SANDSTONE, Light yellowish gray, soft, friable. Fine to coarse grained. Subangular to subrounded Carbonaceous material present, pyritic. Not calcareous Carb shale? Coal? 176
176	178				7 8		2.00	SANDSTONE, Slightly clayey. Rare Carb fragments present, rest same as above. 178
178	180				9 0		2.00	SANDSTONE, No carb fragments. Few coarse grains Rest same as above 180
					1 2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								180.m
180	182				1 2		2.00	SANDSTONE Same as above 182
182	184				3 4		2.00	SANDSTONE. Light gray, soft, fine grained. Mostly subrounded grains. Not calcareous 184
184	186	NON CORING			5 6		2.00	SANDSTONE, Few medium grains are subangular. Rest same as above 186
186	188				7 8		2.00	SANDSTONE, Slightly clayey. Carby material present Rest same as above 188
188	190				9 0		2.00	SANDSTONE. Fine grained, No carby material Rest same as above 190
					1 2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								190.00
190	192				1 2		2.00	SANDSTONE, Same as above. 192
192	194				3 4		2.00	SANDSTONE, Light gray, fine to medium, subangular to subrounded grains. Not calcareous. 194
194	196	NON CORING			5 6		2.00	SANDSTONE, Few subrounded coarse grains. Rest same as above. 196
196	198				7 8		2.00	SANDSTONE, Fine to coarse grained. Rest same as above. 198
198	200				9 0		2.00	SANDSTONE, Light gray, fine to coarse grained. Fine grains are subrounded and coarse subangular. Non-calcareous. Rest same as above 200
					1 2			

Form 3a

-596-

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								200.00
200	202				1		2.00	SANDSTONE, light gray. Fine to medium, subangular to subrounded grains. Slightly clayey 202
202	204				2 3		2.00	SANDSTONE, Few coarse grains are subangular Rest same as above (Redrill - shale, carb; coaly ptg) 204
204	206	NON CORING			4 5		2.00	SANDSTONE, Micaceous, slightly clayey. Black partings of heavy mineral? (Redrill - clst, slty, carb ptg, hd, cmpct) 206
206	208				6 7		2.00	SANDSTONE, Few coarse grains are subangular Pyritic grains present. Rest same as above (Redrill - clst, slty, lt. gray, hd, cmpct) 208
208	210				8 9		2.00	SANDSTONE, Same as above (Redrill - clst, slty, lt. gy, carb ptg, compact) 210
					0 1 2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								210.00
210	212				1 2		2.00	SANDSTONE, light gray, fine to medium grained soft, mostly subrounded grains. Clayey (Redrill – carbsh/clst, gray, coaly frags) 212
212	214				3 4		2.00	SANDSTONE, light gray, fine grained, soft, clayey 214
214	216	NON CORING			5 6		2.00	SANDSTONE, light gray, fine to med grained subrounded grains. Soft. Not calcareous 216
216	218				7 8		2.00	SANDSTONE, Same as above 218
218	220				9 0		2.00	SANDSTONE, Same as above 220
					1 2			

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								220.00
220	222				1 2		2.00	SANDSTONE, Light gray, soft, fine to coarse grained Coarse grains subangular. Fine and medium grains subrounded. Not calcareous 222
222	224	NON-CORING			3 4		2.00	SANDSTONE Light gray, fine to coarse grained. Poorly sorted. Mostly subrounded, few subangular grains. Almost all transparent to translucent quartz grains 224
224	226	NON-CORING			5 6		2.00	SANDSTONE, Light gray, fine to coarse grained Subrounded Poorly sorted Almost all quartz grains REDRILL BEGINS UAT-7R adjacent to UAT-7 226
226	228	REDRILL			7 8		2.00	SANDSTONE, Yellowish brown, fine to coarse grained, dominantly fine, few coarse grains, Clayey Dominantly subangular grains, Carb Shale partings 228
228	230	NON-CORING			9 0		2.00	SANDSTONE Same as above 230
					1 2			

Form 3a

DRILL-HOLE NO UAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
230								230.00
	232				2		2.00	SANDSTONE Yellowish brown, dominantly fine grains Few coarse grains. Fine grains subangular Coarse grains subrounded. Shale cuttings of gray colour 232
232					3		2.00	SANDSTONE, Yellowish brown, fine to coarse grained Fine grains subangular, coarse grains subrounded Poorly sorted Dominantly quartz grains. Slightly clayey 234
234		NON CORING			5		2.00	SANDSTONE, Clayey same as above 236
236					7		2.00	SANDSTONE, Clayey same as above 238
238					9		2.00	SANDSTONE, Light yellowish brown, fine to coarse grained Poorly sorted. Dominantly coarse grains. Few Carby partings. Dominantly quartz grains 240
	240				2			

Form 3a

-600-

DRILL-HOLE NO IIAT-7

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								240.00
240	242						2.00	SANDSTONE, Light yellowish brown, same as above
								242
242	244	NON-CORING					2.00	SANDSTONE, Same as above
								244
244	246						2.00	SANDSTONE, Same as above
								245
								— END —
								246
246	248							
								248
248	250							
								250

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RECOVERY CORE	CORE RECOVERY CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								00
00.00	02.00	CORING			1		2.0	ALLUVIUAM - RECENT DEPOSITS SAND: very light gray N8, very fine grained micaceous, silty, calcareous. 2.00
02.00	04.00	NON CORING			3		2.0	ALLUVIUAM Same as above. 4.00
04.00	06.00				5		2.0	SILTY CLAYS:- Pinkish gray (5YR8/1) Sandy probably sand from upper part of the hole. Compact clay fragments. 6.00
06.00	08.00	CORING			7		2.0	Silty Clays: Same as above 8.00
08.00	10.00	NON CORING			9		2.0	Silty Clays: Same as above. 10.00

ALLUVIUM

DRILL-HOLE NO 11A7#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								10.00
10.00	12.00	NON CORING			11 12		2.0	Silty clays: Pinkish gray 5YR8/1 & light gray, compact clay fragments, sandy. 12.00
12.00	14.00	NON CORING			13 14		2.0	Silty clays: Same as above 14.00
14.00	16.00				15 16		2.0	SANDSTONE: Grayish orange 10YR7/4 fine to medium grained, sub-angular to sub-rounded, mostly quartz grains. 16.00
16.00	18.00	NON CORING			17 18		2.0	Sandstone: Same as above 18.00
18.00	20.00	NON CORING			19 20		2.0	Sandstone: Same as above 20.00

ALLUVIUM

SAKRA FORMATION

Form 3a

-603-

DRILL-HOLE NO VAT #8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								20.0 m
20.0	22.0				21		2.0	SANDSTONE: fine to med. gr. same as above. 22.0 m
22.0	24.0				22 23		2.0	SANDSTONE: Same as above. 24.0 m
24.0	26.0	NON — CORING			24 25		2.0	SANDY CLAYS: Olive grey 5Y 4/1, silty, fine to med. gr. calc. 26.0 m
26.0	28.0				26 27		2.0	SANDY SHALES:- Olive grey, 5Y 4/1.. fine to med. sst. few coarse gr. mostly sub-rounded gr. calc. 28.0 m
28.0	30.0				28 29 30		2.0	Sandy Shales: Same as above. 30.0 m

DRILL-HOLE NO UAT #8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								30.00
30.00	32.00	NON-CORING			31		2.0	Sandy shales: Olive gray 5Y4/1, fine to medium sand grain, few coarse grain mostly sub-rounded, calc, ilic mixed with shale.
					32			32.00
32.00	34.00	NON-CORING			33		2.0	Sandy shales: Same as above.
					34			34.00
34.00	36.00	NON-CORING			35		2.0	Sandy shales: Same as above.
					36			36.00
36.00	38.00	NON-CORING			37		2.0	Sandy shales: Olive gray 5Y4/1, fine to medium sand grain, few coarse grain sub-angular to subrounded
					38			38.00
38.00	40.00	NON-CORING			39		2.0	Sandy shales: Same as above.
					40			40.00
					1			
					2			

Form 3a

-605-

DRILL-HOLE NO UAT #8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40.00								40.00
	42.00				41		2.0	Sandy Shales: Olive gray 5Y 4/1, fine to medium grain, Sub angular to Subrounded, slightly calc. ilés mixed with shale.
42.00					42			42.00
	44.00	NON - CORING			43		2.0	Sandy Shales: Same as above;
44.00					44			44.00
	46.00				45		2.0	Sandy Shales: Same as above:
46.00					46			46.00
	48.00				47		2.0	Sandy Shales: Olive gray 5Y 4/1, fine to medium grain, Sub-angular to Subrounded, few limestone Cutting, formaniferals.
48.00					48			48.00
	50.00	NON - CORING			49		2.0	Sandy Shales: Same as above.
					50			50.00
					1			
					2			

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								50.00
50.00	52.00	NON-CORING			51		2.0	Limestone: Medium light gray N6, hard cutting Slightly Sandy & Silty, foraminiferal (Assilina)
								52.00
52.00	54.00				52			
					53		2.0	Limestone: Same as above.
								54.
54.00	56.00				54			
					55		2.0	Sandy Shales: Light gray N8, fine to medium grain, Sub rounded, Some limestone cutting probably from upper part of the hole.
								56.00
56.00	58.00				56			
					57		2.0	Sandy shales: Same as above.
								58.00
58.00	60.00				58			
					59		2.0	Sandy Shales: Same as above.
								60.00
					60			
					1			
					2			

Form 3a

-607-

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								60.00
60.00	62.00	NON-CORING			61 62		2.0	SANDY SHALE: Same as above. 62.00
62.00	64.00				63 64		2.0	SANDY SHALE: Same as above. 64.00
64.00	66.00				65 66		2.0	SANDY SHALE: Same as above. 66.00
66.00	68.00				67 68		2.0	LIMESTONE: Helium light grey N6, hard frt. cuttings, richly foraminiferal. 68.00
68.00	70.00				69 70		2.0	LIMESTONE. Same as above. 70.00
					1 2			

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								70.00
70.0	72.0	NON-CORING			71		2.0	SANDY SHALE:- Medium light grey N6, silty sandy fine to med. gr. mostly sub-rounded gr. Lt cuttings from upper part of the hole.
								72.00
72.0	74.0				73		2.0	SANDY SHALE: Same as above.
								74.00
74.0	76.0				75		2.0	SANDY SHALE: Same as above.
								76.00
76.0	78.0				77		2.0	SAND STONE:- Light olive grey 5Y 6/1, soft, fine gr. mostly sub-rounded, Lt-cuttings from upper part of the hole.
								78.00
78.0	80.0				79		2.0	SANDY SHALE:- Olive grey 5Y 4/1, fine to med. gr mostly sub-rounded.
								80.00
					80			
					1			
					2			

DRILL-HOLE NO LIAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RECOVERY CORE	CORE RECOVERY CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								80.00
80.0	82.0	NON-CORING			81		2.0	SANDY SHALE: Same as above.
					82			82.00
82.0	84.0	NON-CORING			83		2.0	SANDY SHALE: Same as above.
					84			84.00
84.0	86.0	NON-CORING			85		2.0	SANDY LIMESTONE:- Medium light grey N6, hard cuttings, fossiliferous.
					86			86.00
86.0	88.0	NON-CORING			87		1.0	SANDY LST:- Medium light grey N6, hard, compact, fossiliferous, forams, silty, sandy.
								87.00
							1.0	CLAY STONE:- Medium dark grey N4, semi-hard, fossiliferous
								88.00
88.0	90.0	NON-CORING			89		2.0	SAND STONE:- Medium light grey N6, fine gr. sub-rounded gr. common, clay matrix.
								90.00
					90			
					1			
					2			

Form 3a

-610-

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								90.00
90.0	92.0	CORING — NO 1			91		2.0	SAND STONE: Same as above. 92.00
92.0	94.0				92			
					93		2.0	SAND STONE: Same as above. 94.00
94.0	96.0				94			
					95		2.0	SAND STONE:- Medium light grey N6, fine gr. sub-rounded, clay matrix. 96.00
96.0	98.0				96			
					97		2.0	SAND STONE: Medium light grey N6, fine gr. sub-rounded, clay matrix. 98.00
98.0	100.0				98			
					99		2.0	SAND STONE:- Same as above. 100.00
					100			
					1			
					2			

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								100.00
100.0	102.0				101		2.0	SILTY CLAYS:- Medium light grey N6, slightly sandy. 102.00
102.0	104.0	CORING			103		2.0	SILT STONE:- Medium light grey N6, fossiliferous, calc. sandy, clayey partings. 104.00
104.0	106.0				105		2.0	SILTY CLAYS:- Medium dark grey N4. 106.00
106.0	108.0	NON			107		2.0	SILTY CLAYS:- Medium dark grey N4, slightly sandy. 108.00
108.0	110.0	—			109		2.0	SILTY CLAYS: Medium grey N5, Same as above. 110.00
					110			

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								110.00
110.0	112.0				111		2.0	SILTY CLAYS:- Same as above. 112.00
112.0	114.0	NON-CORING			113		2.0	SAND STONE:- Light grey N7 & Medium light grey N6, fine to med. gr. sub-rounded to sub-angular, clayey. 114.00
114.0	116.0				115		2.0	SAND STONE:- Same as above. black minerals 10% & 85% q/fs gr. 116.00
116.0	118.0				117		2.0	SAND STONE: Same as above, 10% black minerals, 85% q/fs gr., clayey. 118.00
118.0	120.0				119		2.0	SAND STONE:- Same as above. 120.00
					120			

Form 3a

-613-

DRILL-HOLE NO LIAT #8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								120.00
120.0	(1.10) 121.10	1.05	95.4%		121		1.05	Core loss from top of claystone. 120.05 CLAY STONE:- Medium dark grey N4, dark grey N3, semi-hard, silty, sandy at places, animal burrows, shell frag. pyrite. 121.10
121.10	(2.0) 123.10	2.0	100%		122 123		2.0	CLAY STONE:- Same as above. 123.10 Core loss from top claystone as above. 123.15 CLAY STONE:- Medium dark grey N4, semi-hard, silty & sandy at places, sand is fine gr. in middle part, shell frag. 123.80
123.10	(2.15) 125.25	2.10	97.6%		124 125		0.65 0.72 0.73	SILT STONE:- Light grey N7, hard, shell frag. Sandy. 124.62 CLAY STONE:- Medium dark grey N4 & dark grey N3, silty, sandy at places, slicken side, animal burrows, shell frag. & fossils prints. 125.25 Core loss from top clay stone as above. 125.42
125.25	(1.20) 126.45	1.03	85.8%		126		0.17 0.04 0.99	CLAYSTONE:- Same as above. 125.46 LIMESTONE:- (Crystalline) light olive grey, very light grey N8, hard, sandy, foraminiferous, assilina, calcite viens & crystals. 126.45
126.45	(0.60) 127.05	0.57	95%		127		0.57	LIMESTONE:- very light grey N8, crystalline, hard, calcite viens. 127.02 Core loss at bore. Lit. as above. 127.05
127.05	(3.05)	2.95	96.7%		128 129 130		0.15 0.05 1.17 1.58	LIMESTONE:- Same as above. 127.20 SILTY CLAYS:- olive grey 5Y 4/1, broken shells, calc 127.25 LIMESTONE:- light olive grey 5Y 6/1, hard, calcitic, foraminiferal, crystalline, lower part is sandy, red. & coarse gr. 128.42 CLAY STONE:- Dark grey N3, semi-hard, shell frag., silty, sandy, animal burrows, lower part more sandy. 130.0 CONTD.

1

2

DRILL-HOLE NO LIAT #8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	130.10						0.10	Core loss at bore: clay stone as above. 130.10
130.10	(3.10)	1.65	53%		131		1.45	Core loss from Top clay stone as above. 131.55
	133.20				132		1.65	INTERBEDDED SAND STONE & CLAY STONE:- Medium grey N5 & Dark grey N3, semi-hard, sst is fine to med. gr. sub-rounded, clay stone contains animal burrows filled with sand, carb. & coaly flakes, pyritized wood debris. 133.20
					133			SAND STONE:- Medium grey N5, soft, loose, fine to medium gr. sub-rounded, 90% q/3 gr. slightly clayey. 133.48
133.20	(3.00)	0.98	9%		134		0.28	Core loss at bore sst. as above. 136.20
	136.20				135		2.72	SAND STONE:- light olive grey 5Y 6/1, soft, loose, friable, fine to med. gr. sub-rounded, moderately sorted, 90% q/3 gr. slightly clayey, some black minerals 137.30
136.20	(3.05)	1.10	36%		136			Core loss from bore sst as above. 139.25
	139.25				137		1.10	SAND STONE:- Olive black 5Y 2/1, to light olive grey 5Y 6/1, fine to med. gr. loose, soft, sub-rounded, poorly sorted, clay layers & carb. 139.98
139.25	(1.50)	0.73	48.6%		138		1.95	
					139			
					140		0.73	CONTD.
					1			
					2			

Form 3a

-615-

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							0.77	Core loss at base – sand stone as above. 140.75
	140.75							
140.75	(3.00)	3.0	100%		141			INTERLAYERED SANDSTONE & SILTY CLAY STONE:- Sand stone is Greenish grey 5GY6/1, fine to med. gr. moderately sorted, sub-rounded, Glauconitic, animal burrows, silty nodules, pyritic, silty claystone - olive grey 5Y6/1, semi-hard, wood pyritized, animal burrows filled with pyrite, very thin pyritic layers at places, graded into silt stone at places, carb. matter 3-5% thin layers & packets of fine gr. sand. 143.75
					142		3.0	
	143.75				143			SAND STONE:- Greenish black 5G2/1, semi-hard, v. fine to fine gr. sub-rounded, moderately sorted, highly Glauconitic, shell frag. clayey, silty & siderite nodules, thin alternate layers of sand/claystone 145.80
143.75	(2.00)	1.75	87.5%		144			Core loss at base sst. as above. 145.75
					145		1.75	SAND STONE/SILT STONE:- Greenish black 5G2/1, semi-hard, very fine to fine grained sand stone at places graded into silt stone, highly Glauconitic, shell frag. clayey & thin bands of clay, animal burrows, pyritic & wood pyritized. 146.45
	145.75						0.25	
145.75	(0.80)	0.70	87%		146		0.70	Core loss at base sst. as above. 146.55
	146.55						0.10	
146.55							0.45	CLAY STONE:- olive grey 5Y4/1, semi-hard, full of shell frag. sandy & silty, animal burrows filled with fine gr. sand, silty & siderite nodules, wood pyritized, pyritic, packets of fine gr. sand, Glauconitic. 147.00
	(1.85)	1.75	94.5%		147		0.95	SAND STONE:- Dark greenish grey 5G4/1, semi-hard to hard, fine to med. gr. sub-angular, poorly sorted, Glauconitic, at places clayey, shell frag. calc. carb./clay layers. 147.95
	148.40				148		0.35	
148.40							0.10	SAND STONE:- Greenish grey 5GY 6/1 to olive black 5Y 2/1, pyritic, semi-hard, fine to med. gr. sub-rounded, poorly sorted, Glauconitic, in the lower part clay & increases & colour olive black, animal burrows, silty & siderite nodules 148.30
	(3.00)	2.60	86%		149		2.60	Core loss at base sst. as above. 148.40
					150			SAND STONE/CLAY STONE:- Greenish grey 5GY 2/1, semi-hard, alternate bands & layers of fine to med. gr. sst. sub-rounded, poorly sorted, Glauconitic, interlayered olive black clay stone, shell frag. in the lower part.
					1			
					2			CONTD:-

Form 3a

-616-

DRILL-HOLE NO UA9#8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								151.10
								Core loss at base sst. same as above. 151.40
	151.40				151		0.40	SAND STONE:- Medium bluish grey 5B5/1, & Greenish grey 5G6/1, upper part is fine to med. gr. sub-rounded, well sorted, Glauconitic, rarely shell frag. wood pyritized, middle part is more clayey, full of shell frag. calc. animal burrows, thin layers of silt stone at places, the lower part is hard fine to med. gr. poorly sorted. 154.35
151.40	(2.95)	2.95	100%	100%	152		2.95	SAND STONE: Same as above. 155.65
	154.35				153			SAND STONE:- light olive grey 5Y6/1, Greenish grey 5GY6/1, semi-hard, fine to med. gr. sub-rounded, Glauconitic, pyritic, shell frag. (bivalves) clay bands, animal burrows filled with silt & sand silty nodules, at places coarse gr. poorly sorted. 157.50
154.35	(1.30)	1.30	100%	100%	154			Core loss from top sst. as above. 157.60
	155.65				155		1.30	
155.65	(1.85)	1.85	100%	100%	156			INTERLAYERED SANDSTONE/SILTY CLAYSTONE:- Sst. is light olive grey, semi-hard fine gr. sub-rounded, moderately sorted, Pyritic, Glauconitic, silty nodules interlayered with thin layers of silty claystone, olive grey 5Y4/1, silty nodules, & silty layers, wood pyritized at places silty clays graded into silt stone.
	157.50				157		1.85	
157.50	(3.05)	2.95	96.7%	100%	158		2.95	
					159			
					160			
					1			
					2			

CONTD.

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	160.55							160.55
160.55	(3.00) 163.55	1.30	43%	100%	161		1.30	SANDSTONE/SILTY CLAY STONE:- Same as above, only the lower part is dominently sand loose & friable with carb. matter. 161.85
					162		1.70	Core loss at base sst/silty claystone as above 163.55
					163			CLAY STONE:- Olive black 5Y 2/1, semi-hard, thin layers of fine gr. sand. silty & siderite nodules, at places silty layers, wood pyritized, slightly carb. slickenside, concoidal fracture, plant debris. 164.75
163.55	(3.05) 166.60	1.20	39%	100%	164		1.20	Core loss at base claystone as above. 166.60
					165		1.85	CLAY STONE: Olive black 5Y 2/1, semi-hard, thin layers of fine gr. sand, silty & siderite nodules, slickenside, animal burrows filled with fine sand, carb. & wood pyritized, resins, plant debris. 166.85
					166			Core loss at base claystone as above. 166.95
166.60	0.35 166.95	0.25	71.4%				0.25	Core loss from top sst. as below. 167.40
166.95	(2.15) 169.10	1.70	79%		167		0.10	SANDSTONE: (probably Dolomitic/Siderite nodule), light bluish grey 5B 7/1 & greenish grey 5G 6/1, hard, medium to coarse gr. sub-angular, poorly sorted, pyritic, clay matrix. 167.50
							0.46	INTERBEDDED SANDSTONE/CLAY STONE:- Bluish 5B 9/1 & olive black 5Y 2/1, sst is med. to coarse gr. sub-angular, poorly sorted, silty nodules & silty layers. claystone is semi-hard, interlayered with sand. animal burrows filled with med. gr. sand, wood pyritized, slightly carb. 168.00
					168		0.10	
							0.50	
							1.10	
					169			SAND STONE:- olive grey 5Y 4/1, soft & friable, loose, fine to med. gr. sub-rounded, poorly sorted, silty & siderite nodules, clayey, at places ferruginous nodules, pyritic & wood pyritized 169.10
	(1.55)				170		1.05	SAND STONE:- Olive grey 5Y 4/1, same as above.

CONTD.

Form 3a

-618-

DRILL-HOLE NO LIAT#8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								170.15
	170.65						0.50	Core loss at base sst. as above. 170.65
								SAND STONE: Same as above. 171.15
170.65					171		0.50	CLAY STONE:- Olive black 5Y2/1, semi-hard, interlayered with fine gr. sand & silt, animal burrows, 171.65
	(1.50)	1.0	62.5%	100%			0.50	filled with fine gr. sand, slicken side, wood pyritized
	172.25				172		0.60	Core loss at base claystone same as above. 172.25
172.25								SAND STONE:- Medium light grey N6, soft, v. fine, fine to med. gr. sub-angular, poorly sorted, animal burrows, silty & siderite nodules clay layers, at places very hard concreation of sand, silty layers. 173.65
	(2.70)	2.70	90%	100%	173		1.40	CLAY STONE:- Olive black 5Y2/1, semi-hard, interlayered with fine gr. sand, silty & siderite nodules, wood pyritized, animal burrows. 174.15
					174		0.50	SAND STONE:- Olive black 5Y2/1, semi-hard, interlayered with layers of clay, fine to med. gr. sub-angular, poorly sorted, animal burrows, wood pyritized, siderite nodules, 174.95
							0.80	Core loss at base sst. as above. 175.25
	175.25				175		0.30	Core loss from top sst as below. 176.40
175.25								SAND STONE/CLAY STONE:- Olive grey 5Y4/1, interlayered, semi-hard, sst fine gr. sub-angular to sub-rounded, poorly sorted, silty layers, clay stone semi-hard, interlayered, pyritic, wood pyritized, carb. matter, fissile, lower part is more carb.
		1.90	63%	100%	176		1.15	
							0.45	176.85
					177		0.45	CARB. SHALE/DIRTY COAL:- Brownish black 5YR 2/1, semi-hard, slicken side, wood pyritized, pyritic, coaly layers & partings, very near to coal, 750 Carb. matter, animal burrows filled with sand. 177.30
	178.30						1.0	
178.30	0.50 178.80	0.50	100%	100%	178		0.50	SAND STONE:- Olive black 5Y2/1, semi-hard, fine to med. gr., sub-angular, poorly sorted, interlayered thin clay layers, carb. pyritic, silty & siderite nodules, fissile, animal burrows filled with silt & sand, silty layers at places. 178.30
	(3.05)	0.95			179		0.95	SAND STONE: Olive black 5Y2/1, same as above. 178.80
					180			SAND STONE:- Olive black 5Y2/1, same as above.

Contd

Contd

1

2

Form 3a

-619-

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.05) 181.85	0.95	31%	10%	181		2.10	Core loss at bore sst. same as above. 181.85
181.85	(3.05) 184.90	Nil	Nil	100%	182 / 183 / 184		3.05	Total core loss may be sst. as above. 184.90 Total core loss probably sst as above.
184.90	(1.20) 186.10	Nil	Nil		185 / 186		1.20	186.10 — As casing slipped & dropped in the hole & not recovered that's why no further drilling after 186.10. Redrilled - new one, logging again from 181.85m as no core recovery in previous hole from 181.85m depth.
					187 / 188 / 189 / 190 / 2			

Logging from 181.85. See next page

Form 3a

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DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					181			
	181.85							Re-drilled-non-coring upto 181.85 :- Re-logging from 181.85
181.85	(2.90)	2.90	100%		182		1.20	SAND STONE:- Olive grey 5Y 4/1, fine to med. gr. loosely cemented moderately sorted, mostly sub-rounded, lower part is clayey. 183.05
	184.75				183			INTERBEDDED CLAYSTONE & SAND STONE:- light grey N7, & dark grey N3, claystone semi-hard, animal burrows, pyritic, carb. wood pyritized, siderite nodules, sand fine to med. gr. mostly sub-rounded.
					184		1.70	184.75
184.75	(1.35)	1.35	100%		185		1.35	SAND STONE:- Olive black 5Y 2/1, light grey N7, loosely cemented, fine to med. gr. poorly sorted, clayey, slightly carb., massive. 186.40
	186.10				186			SAND STONE:- (Silica sand) very light grey N8, loose friable, massive, med. gr. sub-rounded, moderately sorted, carb. matter < 1%, qtz gr. > 95%. some black minerals. 186.60
186.10	(1.40)	0.50	35.7%				0.50	Core loss. at bore sst. same as above. 187.50
	187.50				187		0.90	SAND STONE:- (Silica sand) same as above. 188.50
187.50	(3.00)	1.0	33%		188		1.0	Core loss at bore sst. same as above.
					189		2.0	
					190			CONTD.

Core Recovery

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	190.50							190.50
190.50	(3.10) 193.60	1.60	51.6%		191		1.60	SAND STONE: Same as above. 192.10
					192			Core loss at base sst. as above. 193.60
					193		1.50	CLAY STONE:- Medium dark grey N4, hard, massive, sandy & silty <5% carb. matter, wood ignitized, pyritic, silty nodules, thin layers of fine gr. sand, resins, animal burrows filled with sand & silt, at places shale laminations (1.50)
193.60	(2.80) 196.40	1.50	53.5%		194		1.50	Core loss at base clay stone as above. (196.40)
					195			
					196		1.30	SAND STONE/CLAY STONE INTERLAYERED:- Light grey N7, & olive black 5Y2/1, sst fine to med. gr. sub-rounded, poorly sorted, thinly bedded, clay stone olive black silty, slightly carb. siderite & silty nodules, animal burrows. 197.65
196.40	(2.80) 198.40	1.25	62.5%		197		1.25	Core loss at base sst./clay stone interbedded as above 198.40
					198		0.75	SAND STONE/CLAY STONE INTERLAYERED:- Same as above. 199.00
198.40	(1.00) 199.40	0.60	60%		199		0.60	Core loss at base sand stone/clay stone as above. 199.40
							0.40	SAND STONE:- light grey N7 + light olive grey 5Y6/1, soft, fine gr. sub-rounded, moderately sorted
199.40							1.20	clay layers, silty + siderite nodules.
		1.20	60%		200			CONTD.
					1			
					2			

DRILL-HOLE NO. MAT # 8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								contd 200.60
	(2.00) 201.40	1.20			201		0.80	Core loss at base sst same as above. 201.40
201.40	(1.45) 202.85	0.40	27.5%		202		1.05	Core loss from top sst same as above 202.45
							0.20	SAND STONE:- light olive grey 5Y6/1, soft, fine gr. sub-rounded, moderately sorted, clayey, silty & siderite nodules. 202.65
							0.20	CLAY STONE:- Olive black 5Y2/1, semi-hard, wood pyritized, carb. siderite & silty nodules, thin sandy layers, animal burrows. 202.85
202.85	(3.00) 205.85	0.76	25%		203		0.35	
							0.40	CLAY STONE:- Olive black 5Y 2/1, same as above. 203.20
					204		2.25	INTERBEDDED SANDSTONE & CLAY STONE:- very light grey N8 & olive black 5Y2/1, sst very light grey, loosely cemented, fine to med. gr. sub-rounded, poorly sorted, animal burrows filled with med. gr. sand, pyritic, clay stone is olive black semi-hard, wood pyritized, carb. animal burrows. 203.60
					205			Core loss at base interbedded sst. & clay st. as above. 205.85
					206			Core loss from top interbedded sst & clayst as above. 206.80
	(3.10) 208.95	0.15	4.8%		207		2.95	SANDSTONE/SILT STONE:- Very light grey N8 & light brownish grey 5YR6/1, semi-hard, inter-layered with silt stone, animal burrows, carb. & coaly partings, siderite nodules, clayey, fine to med. gr. sand, sub-angular to sub-rounded, poorly sorted, hard ferruginous nodules. 208.95
					208		0.15	
208.95		0.20	6.5%		209		2.85	Core loss from top sandstone/silt stone as above.
					210			CONT.D.

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								211.80
	(3.05)	0.20			211			SILT STONE:- Brownish grey 5YR 4/1, hard & compact, carb. matter 1% along the bedding planes, hard ferruginous nodules of sst. pyritic, thin clay layers at places. 212.00
	212.0				212		0.20	SAND STONE:- (Silica sand) very light N8, loose, fine gr. sub-rounded, well sorted, 95% qtz gr. (clean sand) ? some ferruginous minerals weather sand >1% 212.95
212.0	(3.05)	0.95	31%				0.95	Core loss at base sst. same as above. 215.05
	215.05				213			SAND STONE:- Olive black 5Y 2/1, & light grey N7, semi-hard, thin alternate layers of olive black claystone, fine gr. sub-angular to sub-rounded, poorly sorted, animal burrows, siderite nodules. 215.65
					214		2.10	CARB. SHALE:- Olive black 5Y 2/1, semi-hard, shale laminations, wood pyritized, resin, slicken side, coaly partings, silty & siderite nodules, lower part sandy. 215.85
215.05	(2.05)	0.90	43.9%		215		0.60	SAND STONE:- light grey N7, semi-hard, fine gr. sub-rounded, poorly sorted, animal burrows, wood pyritized, carb. pyritic, resin, clayey. 215.95
	217.10						0.20	Core loss at base sst as above. 217.10
217.10	(1.0)	0.50	50%		216		0.10	SAND STONE:- (Silica sand) very light grey N8, loose, fine to med. gr. sub-rounded, moderately sorted, weathered sand, >95% qtz gr. few black minerals. 217.60
	218.10				217		1.15	Core loss at base sst as above. 218.10
218.10	(3.05)	1.0	32.7%				0.50	SAND STONE:- Same as above. 219.10
					218		0.50	Core loss at base sst as above.
					219		1.00	
							2.05	
					220			contd

DRILL-HOLE NO UA7#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								221.15
	221.15				221			SAND STONE:- (Silica sand) very light grey N8, same as above. 222.65
	(3.60)	1.50	50%		222		1.50	Core loss at base sst. as above. 222.151
								SAND STONE:- (Silica sand) very light grey N8, same as above. 225.90
		224.15			223		1.50	Core loss at base sst. as above. 227.20
224.15					224			SAND STONE: (Silica sand) same as above. 229.20
	(3.05)	1.75	58%		225		1.75	Core loss at base sst. as above.
	227.20				226			
227.20					227		1.30	
	(3.00)	2.0	66.6%		228		2.0	
					229			
					230			CONTD.

% Core recovery

Form 3a

625

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	230.20							230.20
230.20	(2.73)	0.90	32.96%		231		1.83	Core loss from top sst/silt stone same as above. 232.03
	232.93				232		0.30	SILT STONE:- light brownish grey 5YR 6/1, hard, wood pyritized, carb. & coaly partings, animal burrows, filled with med. gr. sand, pyrite, resins, at places sandy & thin clay layers, concretion/siderite nodules, few pebbles encountered, Quartzitic type. 232.33
							0.60	SAND STONE:- Very light grey N8, hard, medium to coarse gr. sub-rounded, moderately sorted, slightly calc. >95% qtz gr., animal burrows, few black minerals. 232.93
232.93	(2.17)	0.56			233		1.61	Core loss from top sst/claystone, same as below 234.54
	235.10				234		0.42	SANDSTONE/CLAYSTONE - Olive gray 5Y 4/1, semi hard, sst is fine to med gr, sub-rounded, moderately sorted, qtz 80% animal burrows, interlayered claystone, carb: matter, siderite. 234.96
					235		0.14	COAL:- Brownish black 5YR 2/1, soft, blocky, brown streak, animal burrows filled with sand, fusain 235.10
235.10	(0.85)	0.85	100%				0.34	COAL:- same as above 235.44
	235.95						0.51	CLAYSTONE Dark gray N3, semi hard, carbonaceous, wood pyritized, slightly sandy, coaly partings, concoidal fracture 235.95
235.95	(2.75)	2.25			236			CLAYSTONE:- Dark gray to N3, semi hard. slightly carbonaceous, wood pyritized, siderite nodules, thin layers of sand, sand % increase towards base
					237		2.15	238.10
								SANDSTONE:- 238.20
					238		0.10	Core loss from base of sandstone, same as above. 238.70
	238.70						0.50	Core loss from top of sst: same as below.
238.70					239		1.85	CONTD.
					240			
					1			
					2			

Form 3a

626

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(2.95) 241.65	1.10	37%		241		1.10	Core loss from top of S.St, probably same as above. 240.55 Sandstone: Medium gray N5, olive black 5Y2/1, semi hard, fine to medium grain, sub rounded, poorly sorted, clayey, siderite nodules, slightly carboneceous, thin layers of clay. 241.65
241.65	(3.00) 244.65	0.35	11%		242 243 244		2.65 0.20 0.15	Core loss from top of Sandstone/claystone, probably same as below 244.30 Sandstone/claystone (interlayered) Medium gray N5, Olive Black 5Y2/1, semi hard, fine to medium grain, sub rounded poorly sorted, interlayered with claystone, carboneceous pyritic, animal burrows filled with fine grain sand & silt. 244.50 Silty clays: Medium dark gray N4, semi hard, slightly carboneceous, thin layers of fine grain sand, wood pyritized, animal burrows, siderite nodules. 244.65
244.65	(0.45) 245.10	0.45	100%		245		0.45	Silty clays: Same as above. 245.10
245.10	(1.10) 246.20	1.10	100%		246		1.10	Silty clays: Same as above. 246.20.
246.20	(1.50) 247.70	1.0	67%		247		0.80 0.20 0.50	Silty clays: Same as above. 247.00 Sandstone: Light gray N7, semi hard, fine grain, sub rounded poorly sorted, animal burrows, clay layers, slightly carboneceous pyritic. 247.20 Core loss: from base of sandstone, probably same as above 247.70
247.70	(1.80) 249.50	0.70	39%		248 249 250		0.50 0.20 1.10	Sand stone: Medium gray N5 to light olive gray 5Y6/1, semi hard to soft, fine grain, sub rounded, moderately sorted, clay layers, slightly carboneceous. In lower part clean sand, Qtz grain more than 80% (248.20) Sandstone: Light olive gray 5Y6/1, semi hard to loose fine grain, sub rounded, well sorted, clean sand more than 90% Quartz grain, siderite nodules. (248.45) Core loss from base of sandstone, probably same as above 249.50 Core loss from top of Sandstone, probably same as below
249.50					1 2			

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(1.25)	0.35	28%				0.30	Core loss from top of sandstone, probably same as below. 250.40
	250.75						0.35	Sandstone: (Silica sand) light olive gray 5Y6/1, loose, fine grain Subrounded, well sorted, clean sand 90% Quartz, few black minerals, iron staining 250.75
250.75	(1.50)	0.45	30%		251		1.05	Core loss: from top of sandstone, Probably same as below 251.80
	252.25				252		0.45	Sandstone (silica sand): Same as above 252.25
252.25	(1.55)	0.60	39%		253		0.95	Core loss: from top of sandstone, probably same as below. 253.20
	253.80						0.60	Sandstone: Medium gray N5, semi hard, fine to medium grain, Subrounded, poorly sorted, slightly carboneceous, clay layers, animal burrows, pyrite. 253.80
253.80	(1.75)	0.75	43%		254		1.00	Core loss: from top of sandstone/claystone, probably same as below 254.80
	255.55						0.10	Sandstone/claystone (Interlayered) medium gray N5 to Olive black 5Y2/1 Semi hard, fine grain, subrounded, poorly sorted, silt layered with claystone, pyrite, Carboneceous, Slickenside, Concoidal fracture. 251.90
255.55	(1.30)	0.65	50%		255		0.65	Sandstone (silica sand) light olive gray 5Y6/1, loose, fine grain, Subrounded, well sorted, clean sand 90% Quartz, few black minerals, iron staining. 255.55
	256.85						0.30	Sandstone (Silica sand): Same as above 255.85
					256		0.35	Siltstone: Brownish gray 5YR4/1 semi hard, alternate thin layers of silt & clay, carboneceous, at places Sandy & Sand layers 256.20
							0.65	Core loss: from base of siltstone, probably same as above. 256.85
256.85	(1.50)	0.55	37%		257		0.95	Core loss: from top of sandstone, probably same as below. 257.80
	258.35				258		0.55	Sandstone (silica sand): Light olive gray 5Y6/1, loose, fine grain, Subrounded, well sorted, clean sand 90% Quartz, few black minerals, iron staining. 258.35
258.35	(1.50)	0.62	41%		259		0.88	Core loss: from top of sandstone, probably same as below 259.23
	259.85						0.62	Sandstone (silica sand): Same as above. 259.85
259.85					260			Core loss

Form 3a

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DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(1.50)	0.37	25%		260			Core loss from top of Sandstone, Probably Same as below 261.35
	261.35				261		1.13	Sandstone (silica sand): Light olive gray 5Y6/1, loose fine to medium grain, Sub rounded, well sorted, clean Sand. 90% Qtz, few black minerals, Iron staining. 261.35
261.35	(1.50)	0.28	19%		262		0.37	Core loss from top of Sandstone, Probably Same as below. 262.57
	262.85						1.22	Sandstone (silica Sand): Same as above. 262.85
262.85	(2.87)	0.65	23%		263		0.28	Sandstone (silica Sand): Same as above. 263.50
	265.72				264		0.65	Core loss from base of Sandstone, probably Same as above 265.72
265.72	(3.00)	1.20	40%		265		2.22	Core loss from top of Silty clays/Sandstone, probably Same as below 267.52
	268.72				266		1.80	Silty claystone/Sandstone: (Interlayered) Brownish gray 5YR4/1 Semi hard, alternate thin layers of fine grain Sandst Carboneceous, Cross bedding, siderite nodules, Sandy paleihes. 268.72
268.72	(3.05)	1.55	51%		267		1.20	Core loss from top of Sandstone, Probably Same as below
					268		1.50	↖ contd.
					269			
					270			
					1			
					2			

Form 3a

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DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Core loss 270.22
							0.20	Sandstone (Silica Sand): Light olive gray 5Y6/1, loose fine to medium grain, sub rounded, well sorted, clean sand 7/90% Qtz. few black minerals iron staining. 270.42
		1.55	51%		271		1.35	Sandstone: Light olive gray 5Y6/1, Semi hard, fine grain, sub rounded moderately sorted, at places clay layers, Carbonaceous & coaly partings, siderite nodules. 271.77
271.77	271.77							
	(3.05)	1.85	61%		272		1.2	Core loss from top of Sandstone, probably same as below 272.97
					273			Sandstone (Silica Sand): Light olive gray 5Y6/1 loose fine to medium grain, Subrounded, well Sorted, clean Sand 7/90% Qtz, few black minerals, iron staining.
					274		1.85	274.82
274.82	274.82							
					275		0.47	Sandstone (Silica Sand) Same as above 275.29
	(3.05)	1.37	45%		276		1.68	Core loss from base of Sandstone, probably Same as above 276.97
					277		0.90	Silty claystone: Medium gray N5 Semi hard, Carbonaceous & coaly layers, at places silty and sandy layers Siderite nodules. 277.87
277.87	277.87							
	(3.0)	1.50	50%		278		1.50	Sandstone: (Silica Sand) Light olive gray 5Y6/1, Loose fine to medium grain, Subrounded, well Sorted clean sand 7/90% Qtz, few black mineral iron staining. 279.37
					279			
					280		1.50	Core loss from base of Sandstone Same as above.
					1			
					2			

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	280.87							Core loss Cont'd from previous page. 280.87
280.87	(3.05) 283.92	1.35	44%		281, 282		1.70	Core loss from top of sandstone, probably same as below 282.57
					283		1.35	Sandstone (silica sand) Light olive gray 5Y6/1, loose fine to medium grain, sub rounded, well sorted clean sand >/ 90% SiO_2, few black minerals Iron staining. 283.92
283.92	(1.50) 285.42	0.70	47%		284		0.80	Core loss from top of sandstone probably same as below 284.72
					285		0.70	Sandstone (silica sand) Same as above. 285.42
285.42	(1.50) 286.92	0.63	42%		286		0.87	Core loss from top of sand stone probably same as below 286.29
							0.63	Sandstone (silica sand) Same as above. 286.92
286.92	(1.50) 288.42	0.80	53%		287		0.70	Core loss from top of sandstone, probably same as below 287.62
							0.16	Sand stone (silica sand) same as above 287.78
					288		0.64	Sandstone: Light olive gray 5Y6/1, semi hard, compact, fine to medium grain, at places coarse grain, subrounded poorly sorted. 288.42
288.42	(1.50) 289.92	0.73	49%				0.33	Sandstone: Same as above 288.75
					289		0.77	Core loss from base of sandstone, probably same as above 289.52
							0.40	Claystone: Medium dark gray N4, semi hard, ~~wood~~ pyritized slightly carbonaceous, slightly silty, slickensides conchoidal fractures 289.92
289.92					290, 1, 2			core loss ← CONTD—

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					290			Core loss from top of Sandstone probably same as below 290.92
	(3.0)	2.0	67%				1.0	Sandstone: Light olive gray 5Y6/1, semi hard, fine to medium grain, moderately sorted, subrounded, clayey. 290.93
					291		0.70	Silty claystone: Dark gray N3, medium light-gray N6, semi hard, siderite nodules, animal burrows, thin sandy layers, wood pyritized, carboneceous & coaly partings 291.63
					292		1.03	Siltstone: Medium light-gray N6, semi hard, clayey, pyritic, animal burrows filled with fine sand, wood pyritized, sandy toward base. 292.66
	292.92						0.26	Sandstone: Light olive gray 5Y6/1, semi hard, fine grain subrounded, moderately sorted, siderite nodules coaly partings. 292.92
292.92	(2.40)	1.80	75%		293		1.40	Carboneceous Shale/claystone: Brownish black 5YR 2/1, Medium dark gray N4, semi hard. thin layers & partings of coal. Slickenside. at places sandy. abundant-alternate carboneceous layers. Siderite nodules 294.32
					294		0.40	Silty Claystone: Medium light gray N6, semi hard, at places thin layers of fine grain sand & sand percentage increases downward. 294.70
	295.32				295		0.60	Core loss from base of silty clays, probably same as above 295.32
295.32	(2.69)	2.69	100%		296		2.69	Silty claystone: Medium light gray N6, semi hard, animal bussows filled with fine grain sand. lower part sandy. Siderite nodules slightly Carboneceous, Slickenside 298.01
	298.01				297			Silty claystone: Same as above 298.11
								Carboneceous Shale: Dark N3, semi hard, coaly parting and abundant-Carboneceous matter. 298.21
298.01	(1.00)	1.00	100%		298		0.10 0.10	
	299.01						0.80	Silty claystone: Medium light-gray N6, semi hard, animal bussows filled with Sand, Siderite nodules slightly carboneceous. Slickenside 299.01
299.01					299		0.75	Core loss from top of Silty claystone, Same as below. 299.76
					300			CONTD —
					1			
					2			

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(2.75) 301.76	2.0	73%	100%	301		2.0	Silty claystone: Olive black 5Y2/1 to Medium light-gray N6, Semi hard, animal burrows filled with silt & sand, slickenside carboneceous layers & coaly partings at places sandy, siderite nodules 301.76.
301.76	0.30 302.06	0.30	100%		302		0.30	Silty claystone; Same as above. 302.06
						X	0.18	Core loss from top of silty clay. Probably same as below 302.24
302.06	(1.95) 304.01	1.77	91%		303		1.77	Silty claystone: Medium dark gray N4 to olive black 5Y2/1 Semi hard, siderite nodules, fissile, thin layers of carboneceous matter + coaly partings, sandy, micaceous, more Sandy toward base. 304.01
304.01					304	X	0.47	Core loss from silty claystone as above 304.48
	(2.20) 306.21	1.73	78%		305		1.73	Silty clay stone: light grey N7 & med. grey N5; semi-hard, at places sandy & silty, carb. matter < 1% thin coaly partings, thin sand layers, siderite nodules at places. 306.21
306.21					306	X	0.53	Core loss from top (core grinded) sandy silt stone as below. 306.74
	(1.03) 307.84	1.10	61%		307		1.10	SANDY SILT STONE:- very light grey N8; semi-hard, thinly bedded, interlayered v. fine sst. pyritic, animal burrows, resins, v. slightly carb. 307.84
307.84					308		0.95	CLAY STONE: Medium dark grey N4, semi-hard, animal burrows filled with sand, v. slightly carb. pyritic, very thin sandy layers at places, gradually changes into shale. 308.79
	(2.50)	2.40	96%		309		0.98	HIGHLY CARB. SHALE:- Brownish black 5YR 2/1, semi-hard, laminated, coaly flakes & partings, carb. matter > 50%, animal burrows filled with sand, pyritic, resin, wood pyritized, fissile, lower part about (0.35 m) is very near to coal/Dirty coal, carb. matter in lower part is > 75%, very thin sandy layers at places 309.69
					310			CLAY STONE:-
					1			CONTD —
					2			

Contd

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	310.34						0.55	CLAYSTONE:- Light bluish grey 5B 7/1, semi hard, wood pyritized, coaly partings, slightly sandy at places. 310.24
310.34	(0.95)	0.90	94.7%		311		0.10	Core loss at base claystone as above. 310.34
	311.29						0.90	(0.05) Core loss from top silty claystone, same as below 310.39
311.29								SILTY CLAYSTONE:- med light gray N6, light bluish gray 5B 7/1 semi hard, siderite nodules, slightly sandy coaly partings, silicken sides, carb. animal burrows. 311.29
	(1.65)	1.65	100%		312		1.04	Sandy/Silty Claystone:- Light bluish gray 5B 7/1, med light gray N6, semi hard, sandy, silty, carb, coaly partings, animal burrows, sand % is high in upper part.
	312.94						0.4	COALY SHALE:- 312.33
							0.67	Claystone.- olive gray 5Y 4/1 & light bluish gray 5B 7/1 semi hard, carb matter 2%, silicken side, slightly silty. 312.37
312.94					313			CLAYSTONE:- Med gray N5, semi hard wood pyritized debris, animal burrow filled with fine sand slight silty. slickenside. 312.94
	(1.35)	1.35	100%				1.35	CLAYSTONE:- med dark gray N4, animal burrows, filled with sand, silty. 314.29
	314.29				314			SANDSTONE:- med gray N5, light olive gray 5Y 6/1, hard, fine grained, clay lamination, siderite nodule, pyrite. 314.39
314.29	(0.65)	0.40					0.10	Core loss at base, sandstone name as above. 314.69
	314.94						0.30	
314.94					315		0.25	Core loss at top, sandstone, name as below 314.94
	(2.40)	0.10	4%		316		2.30	
	317.34				317			SANDSTONE:- Light olive grey 5Y 6/1, hard, fine gr. clay partings + slight carb. 317.24
317.34							0.10	317.34
	(3.05)	0.30			318		2.75	Core loss from top set same as above.
					319			
					320			
					1			
					2			

Contd

Contd -

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								320.09
	320.39						0.30	CALC. SANDSTONE:- very light grey N8, hard, med. to coarse gr. sub-rounded, few pebbles encountered, animal burrows filled with clay, massive qtz gr. 70%, some black minerals. 320.39.
320.39	(3.0)	0.51	17%		321		0.51	CALC. SANDSTONE:- Very light grey N8, same as above. 320.90
					322		2.49	Core loss at base sst. as above. 323.39
	323.39				323			Core loss from top sst as below. 325.39
323.39	(3.0)	1.0	33%		324		2.0	SAND STONE:- Light grey N7, loose & friable, fine to med. gr. sub-rounded, qtz gr. 78%. 326.09
					325			COAL:- Brownish black 5YR2/1, soft, pyritic, mixed with clay, sub-vitreous, animal burrows filled with sand, durain, resin. 326.39
	326.89				326		0.70	CLAY STONE:- Medium light grey N6 + Light Bluish grey 5B7/1, semi-hard, coaly flakes & partings, wood pyritized, animal burrows, pyritic, sandy patches, slickenside, slightly silty at places, carb. matter 7%. 327.09
326.39							0.30	Core loss at base claystone as above. 329.39
	(3.0)	70.0	83%		327		0.70	Core loss from top claystone as above.
	329.39				328		2.30	
329.39					329			
	(3.0)	1.75	58%		330		1.25	contd
					1			
					2			

contd

DRILL-HOLE NO UAT#8

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					331			contd. from previous page. Core loss in claystone 330.64
							1.75	CLAY STONE: Same as above. 332.39
	332.39				332			Core loss from top claystone same as above. 333.59
332.39	(2.15)	0.95	44%		333		1.20	CLAY STONE: Medium light grey N6, & brownish grey 5YR 4/1, semi-hard, carb. wood pyritized, plant debris, coaly flakes on top, silty at places. 333.95
							0.36	COAL: Brownish black 5YR 2/1, soft, sub-vitreous, resin. 333.99
	334.54				334		0.04	
							0.55	CLAY STONE: Medium light grey N6, semi-hard, animal burrows, wood pyritized, plant debris, carb. silty & fine sandy patches at places. 334.54
334.54	(2.00)	1.92	96%		335		1.92	Silt-stone: Medium gray N5, Semi hard, coaly partings, carb ≤ 2% slightly Sandy & clayey, animal burrows filled in with Sand / clay, wood pyritized, Thin Sandy layers at places, more sandy toward base. 336.46
	336.54				336			
							0.08	Core loss at base, siltstone same as above. 336.54
336.54	(1.50)	0.85	57%		337		0.85	Silt-stone: Same as above: Sand percentage increases toward base & gradually changes into Sandstone light gray N7, very fine grain, moderately sorted. 337.39
	338.04				338		0.65	Core loss at base of Silt-stone/Sandstone, same as above. 338.04
								Drilling Stopped at 338.04 meters, 23/2/87 at 08.30
					339			
					340			
					1			
					2			

Form 3a

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DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					0·0			0·00
							0·40	ALLUVIUM
		NON-CORING			1		1·60	LIMESTONE. (METING) pale yellowish brown, foraminiferal (Alveolina) weathers to light yellowish brown,
					2			2·00
							1·95	LIMESTONE light yellowish orange, foraminiferal weathered.
					3			3·95
3·95	(1·60) 5·55	1·60	100%		4		1·60	LIMESTONE light yellowish orange, fossiliferous fragments of forams present.
					5			5·55
5·55	(1·70) 7·25	CORING 1·70	100%		6		1·70	LIMESTONE Same as above
					7			7·25
7·25							0·80	LIMESTONE Same as above.
					8			8·05
							0·50	SHALE Reddish brown (Non Calcareous).
			75%					8·55
	(3·00)	2·10			9		0·80	MARL Yellowish orange, fossiliferous, Calcite / Gypsum present
								9·35
					10		0·90	CORE LOSS
	10·25							10·25
					1			
					2			

METING LIMESTONE

SONHARI MBR.

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DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								contd.
10.25					10			10.25
							0.83	LIMESTONE Sandy, yellowish orange, fossiliferous discoidal forams (Assilina) Reworked. 11.08
	(3.05)	1.75	60 %		11			
							1.30	CORE LOSS 12.38
					12			
							0.90	SILTSTONE. Clayey, medium brown, Calcareous. 13.28
12.30					13			SHALE Reddish brown, Sandy, Lateritic (Non Calc) 13.30
13.30							0.65	SHALE Yellowish orange, brown, limonitic, weathered slikensided, Sideritic? few pockets of sand. Sand is medium grained. 13.95
	(1.05)				14		0.40	CORE LOSS 14.35
14.35								
					15		2.25	CORE LOSS
	(3.0)	0.75			16			16.60
							0.7	CLAYSTONE, silty, Sandy, lower part is highly ferrugenous. 17.30
17.35				17.35	17			SILTSTONE clayey, yellowish red, highly oxidized 17.35
17.35							0.34	CLAYSTONE 17.69
	(2.25)	1.25			18		0.91	CLAYSTONE reddish grey, Silty, Sandy, ferrugenous (limonitic), few thin small lenses of quartz sand equigranular (Non-Calc). 18.60
19.60				19.60	19		1.0	CORE LOSS 19.60
19.60	(1.00)	0.95						
					20		0.95	CLAYSTONE Very light grey, Slikensided, Limonitic (Non Calcareous). 20.55
20.60				20.60			0.05	CORE LOSS 20.60
					2			

Form 3a

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DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					20			20.60
20.60	(1.85)	0.95			21		0.90	CORE LOSS 21.50
							0.33	CLAYSTONE Same as above 21.83
	22.45				22		0.30	HIGHLY FERRUGENOUS SANDSTONE (High Sp. gr.) Hematitic. 22.13
							0.32	SANDSTONE Reddish brown, highly oxidized, Lateritic. 22.45
22.45	(0.40) 22.85	0.40					0.4	SANDSTONE dark reddish brown, highly ferrugenous (Lateritic) 22.85
22.85	(0.95) 23.80	0.55			23		0.40	CORE LOSS 23.85
							0.55	SANDSTONE, Ferrugenous/Lateritic 23.80
23.80					24		0.85	CORE LOSS 24.65
	(3.05) 26.85	2.20			25		2.20	CLAYSTONE Lateritic / Limonitic, Varigated, sticky, Sliken Sided. gypsiferous. 26.85
26.85	(1.90) 28.75	0.80			27		1.1	CORE LOSS 27.95
					28		0.80	SANDSTONE yellowish brown, highly fossiliferous, foraminiferal or SANDY LIMESTONE 28.75
28.75	31.55				29			CORE IN INNER TUBE. (CORE LOSS)
					30			
					31			31.55
					2			

Form 3a

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DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					30			
					31			31.55
31.55	(1.25)	1.25			32		1.25	SILTSTONE dark grey. 32.80
32.80							0.2	SANDSTONE medium grey. 33.00
					33			
					34		2.85	LIMESTONE SANDY Pale yelloish orange highly fossiliferous.
					35			35.85
35.85					36		0.19	LIMESTONE SANDY Same as above. 36.04
	(0.90)	0.90					0.71	SANDSTONE MUDDY, light grey, highly fossiliferous. foram. Slightly Pyritic. 36.75
36.75							0.27	SANDSTONE Same as above. 37.02
	(2.25)	1.35			37		1.08	SANDSTONE Dark, black, Carbonaceous? Pyritic fossiliferous (foram fragments) 38.10
	39.00				38		0.90	CORE LOSS 39.00
39.00					39		1.0	CORE LOSS 40.00
					40			
					1			
					2			

SONHARI MBR.

LAKHRA FM.

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.00)	2.00			40 41 42		2.0	SANDSTONE Same as above. 42.00
42.00	(3.05)	1.70			42 43 44 45		1.35	CORE LOSS 43.35
							1.70	SANDSTONE medium dark grey, muddy/silty. Slightly carbonaceous. Lower 25cms is highly ferrugenous (hematitic) At some place look like paper shale? At one place bright colours, probably Chalcopyrite observed. 45.05
45.05	(3.05)	1.35			45 46 47 48		1.70	CORE LOSS 46.75
							1.35	SILTSTONE, dark grey interlamination of sandstone. Pyritic, carbonaceous few lenses of claystone, light yellow in colour or staining due to iron bearing solutions. At one place root observed, replaced by ferrugenous material 48.10
48.10	(3.00)	0.50			48 49 50 1 2		2.50	CORE LOSS 50.60

Contd

Form 3a

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DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					50			
50.60					51		0.50	SANDSTONE 51.10
51.10							0.35	CORE LOSS Probably sand stone. 51.45
	(3.05)	2.70			52		2.70	SANDSTONE medium dark grey N/3 very fine grained (upper 30cms med light grey N/6) cross bedded (probably rippled) dark grey finer grained matter along cross bedding planes (silt + clay). <1mm thick. Sand very fine grained subrounded, well sorted, quartz grains. In the middle part thinly laminated / planar cross beds present. few fossil fragments some probably bivalves / clams? becomes silty towards base. grades downward into silt stone
54.15					53			
					54			54.15
54.15	(1.15)	1.15			55		1.15	SILTSTONE medium dark grey N/3 slightly sandy, in upper few cms. few bivalves, clams? 3-4 mm in size present. slightly pyritic (few small 3-4 mm patches, fine grained). 55.30
55.30								
	(1.85)	1.85			56		1.85	CLAYSTONE medium dark grey N/3 c occasional fossil, shell fragments present. fossils become abundent in about 25 thick band in the middle. slikensided.
					57			57.15
57.15								
	(3.05)	3.05			58		3.05	CLAYSTONE / SHALE medium dark grey N/3 slightly Pyritic (small patches <1mm). few fossil frags. few small nodules 1-3 cms / lenses of siderite lows 1M is clayey / Muddy. Pelycipods / Bivalves 1-5 mm, Gastropods 1-3mm long.
					59			
60.20					60			60.20
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					60			60.20
60.20	(3.00)	2			61			SHALE/ CLAYSTONE silty medium dark grey N/4. few fragments of fossil shells/bivalves/ Pelycipods present. few nodules 1-2 cms found Lower 20 cms grades into SILTSTONE Pyritic, abundent Pyrite patches of crystalline pyrite at about 5 cms from bottom.
	63.20				62			
					63			SHALE/ 63.20
63.20							0.15	CLAYSTONE med grey grades down into claystone. 63.35
							0.32	SHALE/ CLAYSTONE dark grey, slightly carbonaceous, slightly Pyritic. 63.67
	(3.05)	3.05			64			SHALE CLAYSTONE medium dark grey slightly silty, few small pieces of shells. few 1-3 m long Gastropods shells seen Compression Sliken sided. some siderite nodules present upto 6 cms long. slightly Pyritic few 1-2 mm patches one patch 1mm x 6mm of Pyrite observed
					65			
	66.25				66			
66.25							0.05	SHALE/ CLAYSTONE dark grey N-3. Slightly Carbonaceous. 66.25 66.30
	(3.00)	3.00			67			SHALE/ CLAYSTONE silty medium grey N/4 few fossil shells fragments occasional 1-3 mm long Gastropods shells found. Some pieces of Bivalves/ Pelycipods seen. 3 siderite nodules 2-3 cms seen. few small patches of Pyrite 1-8 mm disseminated Pyrite also observed.
					68		2.95	
	69.25				69			SHALE/ 69.25
69.25							0.75	CLAYSTONE medium grey N/5 small fossil shells/ fragments present. sparsely Pyritic (1-3 mm) few patches also disseminated. few 1-3 mm long. Pelycipods / Bivalves.
					70			CONTD-
					1			
					2			

Form 3a

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DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.05)	3.05			70			SHALE/ CLAYSTONE dark grey N-3 to blackish grey sparsely fossiliferous few 1-2 mm Pelycipods / Brachiopod shells present. sparsely Pyritic disseminated and small patches up to 1 mm few to 2 mm. slightly Carbonaceous.
	72.30				71		3.05	
72.30					72			72.30
	(3.00)	3.00			73			SHALE/ CLAYSTONE same as above dark grey N/3 to blackish grey N/2 slightly carbonaceous few small fossils gastropods and pelecypods / Bivalves. more pyritic than overlying rock, both disseminated and small (0.5 - 1 mm few to 2 mm) patches. glauconite pallets dark green in cluster (1x2 cms) patches.
	75.30				74		3.00	75.30
75.30					75			SHALE/ CLAYSTONE same as above dark grey N/3 + blackish grey. slightly carbonaceous. Gastropods few 1-3 mm. one fossil 1.5 cm x 0.5 cm (unidentifiable) at 8 cms from top. Lower half Glauconitic, abundent in lower 20 cms. Pyritic, rare & v. small patches in upper half. bigger patches + frequent in lower part.
	(3.00)	3.00			76		0.81	76.11
	78.30				77		0.73	SHALE/ CLAYSTONE greenish black N/2 more fossiliferous than overlying rock. Lower half, highly fossiliferous, contains forams, tubular fossils, 1 mm long Snails, 1-2 mm Pelycipods / bivalves.
							0.50	76.84 SHALE CLAYSTONE greyish black N/2, slightly carbonaceous, same as above but much less fossiliferous. — 77.34 —
							0.30	CLAYSTONE same as above highly fossiliferous, more fossils towards base. forams, Pelycipods, Bivalves, Glauconitic 77.64
					78		1.36	Slightly Pyritic. Lr 1/3 highly Pyritic 1-2 mm at places. 78.00
							0.30	CLAYSTONE dk. gy. highly fossiliferous, glauconitic, few forams.
							0.07	CLAYSTONE dusky green, much less fossils few forams highly glauconitic 78.30
	(3.05)	2.75			79		0.75	SHALE/ CLAYSTONE greenish grey same as above. 79.05
							1.17	LIMESTONE argillaceous, upper 25 cms claystone with crushed fossil. Greenish grey 5G 6/1 highly fossiliferous few forams seen, fossil hash. Lower 20 cms highly clayey, much less fossiliferous grades downwards into shale.
					80			CONTD -
					1			CONTD
					2			

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								80.22
					80		.05	LIMESTONE highly clayey grades down into shale 80.27
					81		0.83	SHALE/ CLAYSTONE greyish black N/2 upper 10cm contain material from overlying limestone fossiliferous. probably filled in burrows? slightly carbonaceous. rare fossil fragments. 81.35
	81.35						.25	LOSS
81.35					82		0.93	SHALE/ CLAYSTONE, sandy, greenish grey 5G 6/1 Fe-mg mineral grains 10-12%. Fossiliferous, Bivalves/Pelecypods small 1-3 mm upper 5cm. intermixed with overlying carb shale (gradational) 82.28
	(3.00)	3.00					0.20	SHALE/ CLAYSTONE medium dark grey N/3. At places greenish claystone (similar to overlying bed) present intermixed At the base 0.50 cms thick band of Gypsum at about 45° grades down into claystone. 82.48
					83, 84		1.87	SHALE/ CLAYSTONE medium dark grey, compression slickensided. Sparsely Pyritic. disseminated or in small patches. occasional Nodules (slightly effervesc) siderite? up to 1cms. one 3×5cm 84.35
	84.35							
84.35	(3.00)	3.00			85, 86		2.84	SHALE/ CLAYSTONE medium dark grey N/3, sparsely pyritic both disseminated and very small patches 1-2mm. some up to 0.8cms. few fossils, Pelecypods/Bivalves present. small patches of silt/very fine sand along breaks. lower 50 cms becomes silty. 87.19
					87		0.16	SHALE/ CLAYSTONE dark greenish grey 5GY 4/1 Fe-mg mineral grains 5-10% fossiliferous. contains few forams discoidal (Assilina), broken Bivalves/Pelecypods sparsely Pyritic, disseminated & in small patches up to 1mm
	87.35						0.20	SHALE/ CLAYSTONE same as above, broken, foraminiferal 87.35
87.35	(3.05)	3.05			88, 89, 90		2.85	87.55 LIMESTONE medium grey N/5 argillaceous, highly fossiliferous, fossil-rock ratio 60:40/70:30. highly foraminiferal. both discoidal (Assilina) nummulites and oval Alveolina. 1-3mm dia occasionally up to 1cms.
	90.40							

contd —

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					90			LIMESTONE 90.40
	90.40							
90.40	(3.05)	3.05					0.52	LIMESTONE Same as above highly fossiliferous. fossil hash. foraminiferal. Disseminated pyrite at places in few small patches. 90.92
					91		0.08	CLAYSTONE medium dark grey sparsely fossiliferous. 91.00
							1.12	LIMESTONE medium grey N/5 Same as above highly foraminiferal (discoidal) Assilina? & Numulites. 92.12
					92		1.33	SHALE/ CLAYSTONE dark grey N/3 Siderite nodules in large number in upper half. (1-2 cms) rare in lower half. 93.45
	93.45							
93.45	(0.60) 94.05	NIL			94		0.60	CORE LOSS CLAYSTONE Same as above. (core dropped) 94.05
94.05							1.95	SHALE/ CLAYSTONE medium dark grey fossil fragments. Fe-mg grains present. few pyrite grains observed. few sand grains observed. Sand. fine grained subrounded quartz. 96.00
					96			
					97		2.00	LIMESTONE argillaceous medium light grey to medium grey. fossiliferous. fossil fragments few discoidal foram frags (Assilina) observed 98.00
					98			
					99			LIMESTONE Same as above. 100.00
					100			
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					100			(SHALE) CLAYSTONE, silty, sandy. medium dark grey same as above fossil fragments present
					101			
								102.00
					102			(SHALE) CLAYSTONE medium dark grey, silty, sandy limestone fragments present -
					103			
								104.00
					104			CLAYSTONE, silty, sandy same as above
					105			
								106.00
					106			CLAYSTONE silty sandy same as above
					107			
								108.00
					108			CLAYSTONE silty sandy same as above
					109			
								110.00
					110			
					1			
					2			

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DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					110.00			
					111			CLAYSTONE silty, sandy same as above medium dark grey N-4. Sand grains are very fine, subrounded quartz.
					112.00			
					112			CLAYSTONE silty sandy, medium dark grey. same as above.
					113			
					114.00			
					114			LIMESTONE medium dark grey. N-6 to medium grey N-5, highly fossiliferous, fossil fragments (Assilina) observed.
					115			
					116.00			
					116			LIMESTONE same as above.
					117			
					118.00			
					118			SHALE/CLAYSTONE, medium grey N-5 with small limestone chips present.
					119			
					120.00			
					120			
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					120			120.00
								SHALE / CLAYSTONE medium grey N-5
					121			
								122.00
					122			LIMESTONE medium grey N/5. Very small fragments of fossils (forams) present. Some pieces of shale medium grey observed.
					123			
								124.00
					124			LIMESTONE Same as above
					125			
								126.00
					126			SHALE / CLAYSTONE medium grey N-5, sandy. Sand fine grained subrounded quartz.
					127			Limestone fragments from over lying bed mixed up.
								128.00
					128			SHALE / CLAYSTONE medium dark grey N-4. sandy, Sand fine to medium grained subrounded, moderately sorted.
					129			Lime stone fragments from overlying bed found mixed up.
								130.00
					130			
					1			
					2			

DRILL-HOLE NO IJAT-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					130			130.00
					131			SHALE/CLAYSTONE dark grey N-3 slightly carbonaceous? Pyrite grains observed few dark mineral grains some dark green glauconite grains present.
					132			132.00
					133			SHALE/CLAYSTONE Same as above.
					134			134.00
					135			SHALE./CLAYSTONE Same as above.
					136			136.00
					137			SHALE/CLAYSTONONE Same as above
					138			138.00
					139			SHALE/CLAYSTONE Same as above
					140			140.00
					1			
					2			

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DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					140			140.00
					141			SHALE/CLAYSTONE same as above.
					142			142.00
					143			SHALE/CLAYSTONE same as above. medium dark grey N-4 (dry)
					144			144.00
					145			SANDSTONE dark grey N-3, Very fine grained subrounded, well sorted, transparent quartz grains. Some dark coloured Fe-mg mineral grains. fragments of shale/Limestone chips found mixed up in small amount
					146			146.00
					147			SANDSTONE medium dark grey N/4 to dark grey N-3, fine grained, subrounded, well sorted, transparent quartz Fe-mg mineral grains present.
					148			148.00
					149			SANDSTONE Same as above
					150			150.00
					1			
					2			

DRILL-HOLE NO JAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					150			150.00
					151			SANDSTONE Same as above
					152			152.00
					153			SANDSTONE Same as above.
					154			154.00
					155			LIMESTONE, medium light grey, Sandy Sand fine grained subrounded quartz grains.
					156			156.00
								LIMESTONE Same as above.
								157.00
					157			SANDSTONE medium light grey N/6 fine to medium grained subrounded transparent quartz grains, few dark green & black Fe-mg mineral grains.
								158.00
					158			SANDSTONE medium dark grey N-4 fine grained few medium grained subrounded moderately sorted.
					159			Lime stone fragments in small amount mixed up from circulating mud. 160.00
					160			
					1			
					2			

LAKHRA FM

BARA FM

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					160			160.00
					161			SANDSTONE Same as above, medium dark grey, fine grained few medium size grains, Subrounded few subangular, moderately sorted, transparent quartz.
					162			162.00
					163			SANDSTONE Same as above medium grey N-5 Subrounded quartz grains well sorted, few Fe-mg mineral grains. fine grains of Pyrite present
					164			164.00
					165			SANDSTONE Same as above, fine grained
					166			166.00
					167			SANDSTONE medium light grey N-6, fine to medium grained Subrounded to subangular quartz grains. Limestone/fossil fragments? in appreciable amount much more than in the Sample above it.
					168			168.00
					169			SANDSTONE medium grey N-4 to medium dark grey N-3, very fine grained, Subrounded, well sorted, quartz dominant.
					170			170.00
					1			
					2			

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DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					170			170.00
					171			SANDSTONE / SHALE medium grey to medium light grey very fine grained, subrounded, well sorted quartz grains.
					172			172.00
					173			SANDSTONE Same as above.
					174			174.00
					175			SANDSTONE medium grey N-4. Very fine grained same as above
					176			176.00
					177			SANDSTONE same as above very fine grained.
					178			178.00
					179			SANDSTONE fine to medium grained. otherwise same as above Lower part becomes clayey
					180			180.00
					1			
					2			

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DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					180			180.00
					181			SANDSTONE Clayey medium dark grey N-3 fine to medium grained, Subrounded to Subangular, transparent quartz. few Fe-mg mineral grains.
					182			182.00
					183			CLAY-STONE/SHALE Sandy; medium dark grey. Sand is very fine grained, Subrounded quartz.
					184			184.00
					185			CLAYSTONE medium grey N-5, Sandy Sand is fine grained, Subrounded quartz grains.
					186			186.00
					187			CLAYSTONE Same as above Sandy.
					188			188.00
					189			CLAYSTONE, Sandy, medium dark grey N-4 Same as above.
					190			190.00
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					190			190.00
					191			SANDSTONE clayey, medium dark grey N-4 same as above. very fine grained subrounded, transparent quartz. 192.00
					192			SANDSTONE same as above. 194.00
					193			
					194			SANDSTONE clayey medium dark grey N/4 fine grained, subrounded, well sorted quartz 196.00
					195			
					196			CLAYSTONE sandy medium dark grey N-4. Sand very fine grained quartz. 198.00
					197			
					198			SANDSTONE clayey medium dark grey. N-4, Very fine grained quartz; subrounded. few dark coloured Fe-mg mineral grains. 200.00
					199			
					200			
					1			
					2			

Form 3a

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DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					200			200.00
					201			SANDSTONE medium grey N-5, fine grained minor / very small amount of medium size grains. Subrounded, few subangular, muddy, poorly sorted, transparent quartz few (5%) dark coloured Fe-mg mineral grains. 202.00
					202			SANDSTONE, muddy / mudstone highly sandy medium grey N-5, Sand. fine to medium grained subangular, few subrounded quartz grains poorly sorted. Fe-mg mineral grains 5-10%. 204.00
					203			
					204			SANDSTONE muddy same as above, poorly sorted, fine to medium grained few coarse quartz grains. 206.00
					205			
					206			SANDSTONE muddy same as above. poorly sorted, fine to medium grained few coarse quartz grains 208.00
					207			
					208			SANDSTONE muddy same as above poorly sorted, fine to medium grained few coarse grained quartz grains. 210.00
					209			
					210			
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					210.00			
					211			SANDSTONE muddy, medium grey N-5, fine to medium grained few coarse grained, subrounded to subangular quartz grains poorly sorted. dark coloured Fe-mg mineral grains up to 5 %. 212.00
					212			SANDSTONE muddy medium grey N-5. poorly sorted, fine to medium size few coarse grained quartz. same as above. 214.00
					213			
					214			SANDSTONE same as above muddy; fine to medium grained, few coarse grains. poorly sorted quartz grains. 216.00
					215			
					216			SANDSTONE same as above 218.00
					217			
					218			SHALE dark grey N-3 sandy, sandy or mixed with sand. sand is medium grained. 220.00
					219			
					220			
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					220			220.00
					221			SANDSTONE medium grey N-4, medium grained muddy, minor amount of fine & coarse size quartz grains. Fe-mg mineral grains ~~in~~ 5-10%. Pyrite grains also observed. 222.00
					222			SANDSTONE medium grey N-5, medium grained subrounded, moderately well sorted, transparent quartz grains. Fe-mg mineral grains 5-8%. 224.00
					223			
					224			SANDSTONE same as above, medium, grained minor amount of fine and few coarse, grained subangular quartz grains. 226.00
					225			
					226			SANDSTONE same as above, poorly sorted. 228.00
					227			
					228			SANDSTONE same as above, poorly sorted 230.00
					229			
					230			
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					230			230.00
					231			SANDSTONE Same as above poorly sorted.
					232			232.00
					233			SANDSTONE medium grey N-5, medium grained Very small amount of fine grains and rare Coarse grains Subrounded, well sorted, transparent quartz grains. Fe-mg mineral grains upto 5%.
					234			234.00
					235			SANDSTONE Same as above
					236			236.00
					237			SANDSTONE fine grained, clayey, medium, grey, Subrounded well sorted. clear / transparent quartz grains.
					238			238.00
					239			SANDSTONE fine to medium grained otherwise Same as above.
					240			240.00
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					240.00			
					240			SANDSTONE medium dark grey N-4 to dark grey N-3 very fine grained, subrounded, well sorted quartz grains.
					241			
					242.00			
					242			MUDSTONE Sandy medium dark grey N-4 Sand grains fine, few medium size, sub-rounded occasional subangular transparent quartz grains.
					243			
					244.00			
					244			MUDSTONE sandy, medium dark grey N-4. Sand is very fine grained subrounded well sorted transparent quartz 5-10% dark coloured Fe-mg mineral grains.
					245			
					246.00			
					246			MUDSTONE Sandy medium dark grey N-4 Same as above.
					247			
					248.00			
					248			SANDSTONE CLAYEY medium dark grey N-4 Very fine grained few coarse grained. dark coloured Fe-mg-mineral grains 2-3%.
					249			
					250.00			
					250			
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					250			250.00
								SANDSTONE same as above clayey
					252			252.00
								SANDSTONE Clayey same as above
					253			254.00
					254			SANDSTONE same as above clayey.
					255			256.00
					256			MUDSTONE sandy, medium dark grey N/4. Sand grains are fine, occasional medium size, subrounded quartz sand.
					257			258.00
					258			MUDSTONE Sandy same as above.
					259			260.00
					260			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					260			260.00
					261			SANDSTONE muddy / clayey. fine grained few medium grained, subrounded, transparent quartz grains. dark coloured (black & green) Fe - Mg mineral grains upto 5%.
					262			262.00
					263			SANDSTONE Same as above clayey.
					264			264.00
					265			SANDSTONE, Clayey, fine grained, Same as above.
					266			266.00
					267			SANDSTONE muddy / clayey, fine grained few medium size subrounded grains transparent quartz grains, few dark mineral grains
					268			268.00
					269			SANDSTONE muddy / clayey, very fine grained Same as above
					270			270.00

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					270			270.00
					271			SANDSTONE muddy clayey same as above
								272.00
					272			
					273			SANDSTONE, muddy/clayey same as above
								274.00
					274			
					275			SANDSTONE medium grey N-5 (clean sand) fine grained (upper limit) to medium grained (lower limit) sand grains, subrounded, well sorted transparent quartz grains, Few 2-3% dark colored Fe-Mg mineral grains.
					276			276.00
								SANDSTONE same as above
					277			
								278.00
					278			
					279			SANDSTONE same as above.
								280.00
					280			
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					280			280.00
					281			SANDSTONE dark grey N-3 (wet) muddy, fine grained, subrounded quartz sand.
								282.00
					282			SANDSTONE medium dark grey N-3 (wet) medium grained few coarse grained, subrounded to subangular moderately sorted. transparent quartz grains up to 95% dark coloured Fe-Mg mineral grains 3-5% (green and black)
					283			284.00
					284			SANDSTONE dark grey N-3 (wet) clayey/muddy, medium grained, few coarse grains. Fe. Mg mineral grains 2-5 % (black grains)
					285			286.00
					286			SHALE silty / sandy dark grey N-3. sand is medium grained, subrounded transparent quartz grains. occasional fine fragments of dark minerals
					287			288.00
					288			SANDSTONE medium grey, muddy, fine grained, subrounded, poorly sorted, transparent quartz grains with 2-3% dark coloured Fe-Mg mineral grains.
					289			290.00
					290			
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					290			290.00
					291			SANDSTONE medium dark grey N-4, medium grained, few coarse grains. Subrounded to subangular, transparent quartz, few 3-5% dark coloured Fe-Mg mineral grains. 292.00
					292			MUDSTONE / SHALE Sandy dark grey N-3. Sand grains medium to fine, subrounded, transparent quartz grains. Few 2-5% dark coloured (black & green) mineral grains, fine few medium grained, Fe-Mg mineral grains. 294.00
					293			
					294			SHALE same as above. 296.00
					295			
					296			SHALE / MUDSTONE same as above. 298.00
					297			
					298			SHALE / MUDSTONE same as above. 300.00
					299			
					300			
					1			
					2			

DRILL-HOLE NO VAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					300			300.00
								SHALE / MUDSTONE same as above.
					301			
								302.00
					302			SHALE / MUDSTONE same as above
					303			304.00
					304			SHALE / MUDSTONE same as above
					305			306.00
					306			SHALE / MUDSTONE same as above.
					307			308.00
					308			SHALE / MUDSTONE same as above
					309			310.00
					310			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RECOVERY CORE	CORE RECOVERY CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					310.00			
					311			SHALE / MUDSTONE dark grey N-3 to greyish black contains few black coloured specks / pieces of coal? / carb shale or Fe-Mg mineral grains < 1mm in size.
					312.00			
					313			SANDSTONE medium dark grey N-4, medium grained, subrounded well sorted, transparent quartz sand. Fe-Mg mineral grains 3-5%.
					314.00			
					315			SANDSTONE Very fine grained / MUDSTONE dark grey N-3 to medium dark grey N-4 Subrounded quartz sand.
					316.00			
					317			SHALE medium dark grey N-4 to dark grey N-3, slightly sandy, few black coloured Fe-Mg mineral grains
					318.00			
					319			SHALE Same as above.
					320.00			

DRILL-HOLE NO WAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								320.00
					320			SHALE Same as above.
					321			322.00
					322			SHALE / MUDSTONE dark grey N-3, slightly sandy few black coloured chips of Coal? Shale or Fe. Mg mineral grains.
					323			324.00
					324			SANDSTONE medium grey N/5 to medium dark grey N-4 fine grained, few medium grained subrounded well sorted, transparent quartz sand, 3-5% black & green Fe-Mg mineral grains.
					325			326.00
					326			SANDSTONE Same as above.
					327			328.00
					328			SANDSTONE Same as above.
					329			330.00
					330			
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					330.00			
					331			SANDSTONE same as above.
					332.00			
					332			
					333			SANDSTONE same as above.
					334.00			
					334			
					335			SANDSTONE same as above.
					336.00			
					336			
					337			SANDSTONE same as above.
					338.00			
					338			
					339			SANDSTONE same as above.
					340.00			
					340			
					1			
					2			

DRILL-HOLE NO UAT-9

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					340			340.00
					341			SANDSTONE same as above.
					342			342.00
					343			SANDSTONE same as above.
					344			344.00
					345			SANDSTONE same as above.
								345.00
								END

6
7
8
9
0
1
2

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS (metres)	LITHOLOGIC DESCRIPTION
								0.00
0.0							0.5	SANDY CLAY: Dark greyish orange 10yR 6/6, few calcareous clasts, sandy, calcareous, organic material present 0.5
							0.5	SANDY LS: Pale yellowish orange 10yR 8/6, hard, compact, sandy fossiliferous, fossils are Turritella, Echinoderm, bivalves 1.00
	2.00				1		1.10	SANDY CLAY: Dark yellowish orange 10yR 6/6, sandy, calcareous, fossiliferous, from 1.06 to 2m is sandy clay and it is continued. 2.00
2					2			
	4.00				3		2.0	SANDY CLAY Greyish orange 10yR 7/4 to light brown 5yR 5/6, soft, sandy, slightly calcareous, fossil fragments present. Sand clay ratio 45 + 65 4.00
4.0					4			
	6.00				5		2.00	SANDY CLAY Dark yellowish orange 10yR 6/6, soft, sandy, sticky, slightly calcareous [illegible] 6.00
6.0					6			
	8.00	NON-CORING			7		2.0	CLAYSTONE: Pale yellowish orange 10yR 8/6, to dark yellowish orange 10yR 6/6, well sticky, soft, slightly sandy, slightly calcareous may be due to overlying sandy limestone 8.00
8.0					8			
	10.00				9		2.00	SANDY CLAY: Moderate yellowish brown 10yR 5/4 sticky soft, slightly sandy, slightly calcareous 10.00
					10			
					1			
					2			

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								10.00
10.00	12.00	NON-CORING			11		2.00	Sandy clay Moderate yellowish brown 10YR 5/4 soft, sandy, slightly calcareous, sand clay ratio 10 : 90
								12.00
12.00	14.00				12 13		2.00	Sandy clay Olive grey 5Y 4/1, soft, sticky, sandy, pale yellow sandy clay patches seem to be from the overlying bed, slightly calcareous
								14.00
14.00	16.00				14 15		2.00	Sandy clay Medium dark grey N4, soft, sticky, sandy, pale yellow particles present, sand grains are mostly fine
								16.00
16.00	18.00				16 17		2.00	SHALE: Dark grey N3, soft, sticky, sandy partings from overlying strata sand grains are very fine, slightly calcareous, ~~dark~~
								18.00
18.00	20.00				18 19		2.00	SHALE Dark grey N3, soft, ~~dark~~ well sticky, slightly sandy, few particles of overlying bed, sand grains very fine & fine
					20 1 2			20.00

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								20.00
20.00	22.00	CORING			21		2.00	SHALE — Dark grey N3, soft, well sticky, sandy grains are fine to medium, few sandy limstone partings & overlying beds fossil.
								22.00
22.00	24.00				22 23		2.00	SHALE — Dark grey N3, soft, sandy sticky, pale yellow partings, sand grains are varying fine to fine
								24.00
24.00	26.00				24 25		2.00	SANDY LS: — olive grey 5Y 4/1, fine to coarse grain sand, angular to subangular soft, loose, calcareous, sand and limstone ratio looks 50:50
								26.00
26.00	28.00				26 27		2.00	SANDY LS: — Olive grey 5Y 4/1, medium dark grey N4, granular material, fine to medium, looks argillaceous First appearance looks Sandstone like
								28.00
28.00	30.00				28 29 30 1 2		2.00	SANDY LS: — Same as Above
								30.00

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								30.10
30.10	(0.90) 30.90	0.75	83.33%				0.75	Carbonaceous Shale — Greyish black N2, medium hard, medium compact, sandy at place. Sand grains are fine to fine. 30.75
							0.15	CORE LOSS 30.90
30.90					31		1.07	Carbonaceous Shale — Dark grey N3 to greyish black N2, medium hard, medium compact, thin laminae and coaly specks present 31.97
	(3.05) 33.95	3.05	100%		32		1.51	Carbonaceous Sandstone — Dark grey N3 to greyish black N2, very fine to fine subrounded sorted, silty coaly specks or patches, pyritic, at places, siderite nodule 33.48
					33		(1.66)	
							0.47	Claystone — Medium dark grey N4 to medium hard, medium compact, sandy, bioturbated 33.95
33.95					34		0.11	claystone — Same as above 34.16
	(2.20) 36.15	1.60	72.7%				(0.60)	Core loss 34.86
					35		0.76	Sandstone — Medium dark grey N4, fine grained, subrounded sorted, very hard sand stone nodules, siderite clayey patches 35.42
							0.22	Claystone — Dark grey N3, medium hard, medium compact, sandy 35.64
							0.25	Sandstone — Medium dark grey N4, fine grain, subrounded sorted, in fill siderite, calcareous, pyritic, 35.89
					36		0.26	Claystone — Dark grey N3, hard compact, sandy, pyritic, fossil fragments 36.15
36.15	(0.85) 37.00	0.85	100%				0.85	Claystone — Medium dark grey N4, medium hard, compact, sticky, rare fossil fragments, pyritic rare siderite, micaceous, sandy 37.00
37.00					37		0.50	Sandstone — Medium dark grey N4, fine grain, subrounded sorted, hard, compact, siderite, fossil fragments 37.50
	(2.80) 39.80	2.25	80.3%				0.60	Silty Sandstone — Medium dark grey N4, very fine to fine, subrounded sorted, hard compact fossil fragments 38.10
					38		0.37	Sandstone — Greenish grey, fine grain subrounded sorted, very hard, very compact, calcareous 38.47
							0.44	Claystone — Dark grey N3, greenish grey alternate layers of sandstone, claystone, siderite 38.91
					39		0.37	Sandstone — Dark grey N3, fine grain, subrounded sorted, medium hard, medium compact 39.28
							0.53	
							(0.55)	Core loss 39.81
39.80					40		0.73	Sandy claystone

CONTD —

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					40			Contd. from previous page
							0.73	Sandy Claystone — Dark grey N3, dark greenish grey 5GY 4/1, medium hard, medium Compact alternate layers & laminae of claystone, sandstone & siltstone
							40.53	
					41			Sandstone — Dark grey N3, fine grained, Sub angular to Subrounded, Dotted Soft to medium hard, medium Compact, Calcareous, pyritic Carby Specks in clayey patches.
					42		2.32	
	(3.05) 42.85	3.05	100%					42.85
42.85					43			Sandstone — Same As above
	(3.05) 45.90	2.45	80.3%		44		2.45	
					45			45.30
							0.60	Core loss
								45.90
45.90					46		0.48	Sandstone — Dark grey N3, alternate layers of Claysto + Sandstone, more clayey towards lower part
							46.38	
							0.63	Silty Claystone — Dark grey N3, medium hard Compact, Sandy Silty, pyritic, Coaly Specks + fossiliferous
					47		47.01	
	(3.05) 48.95	2.90	95%				1.07	Siltstone — Dark greenish grey 5GY 4/1, medium hard Compact, Sandy, fossiliferous, Clay patches present in lower part
					48			48.08
							0.72	Silty Sandstone — Dark grey N3, very fine to fine grain Subrounded, Dotted, Silty, fossiliferous Coaly + Carby Specks, at places, Lenticular
							48.80	
							0.15	Core loss
								48.95
48.95	(2.15)	2.0	93%		49		0.63	Claystone — Medium dark grey N4, medium hard, medium Compact, Sandy & Silty fossiliferous Sandy laminae & patches present
							48.58	
								Muddy Sandstone — Medium dark grey N4, muddy
					50			

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							0.78	49.36 fine to medium grained, subrounded Poorly sorted, tobacco, calcareous
							0.36	Claystone 49.72 Dark grey N3, medium hard, Compact Sandy, Carbonaceous, pyritic, burrowed
							0.21	Silty Sandstone medium dark grey N4, very fine to fine grained 49.93
	51.10				51		0.15	Core Loss 50.10
51.10		(1.15)	0.95	82%			0.17	light grey N7, very fine to fine, subrounded
							0.95	Sandstone sorted, silty, medium hard to very hard medium Compact, well Compact, hard layers are calcareous 52.05
	52.25				52		0.20	Core Loss 52.25
52.25							0.65	Sandstone Same as above 52.90
				35.4%	53		0.30	Claystone Dark grey N3, medium hard, medium Compact carbonaceous, pyritic, fossil fragments 53.20
							0.10	Sandstone light grey N7 very fine to fine, subrounded, sorted 53.30
		(3.05)	1.05		54		2.0M	Core loss
	55.30				55			55.30
55.30							1.25	Sandstone Alternate layers sandstone & claystone light grey N7, very fine to fine grain, subrounded, sorted, muddy clayey patches, soft to medium hard 56.55
		(3.05)	1.25		56			
					57		1.80	Core loss in Sandstone
	58.35				58			58.35
58.35							0.05	Claystone dark grey N3 to light grey N7, medium hard, medium Compact Carbonaceous 58.40
		(3.05)	1.50	59.1%	59		0.94	Sandstone Medium dark grey N4 to Dark grey N3 fine grained, subrounded, sorted soft, medium Compact, muddy, Carbonaceous 59.34
							0.31	Carbonaceous Shale 59.65 Dark grey N3 medium hard, medium Compact, coaly specks, pyritic, sandy
							0.10	Sandstone Medium dark grey N4, fine to medium grained, subrounded 59.75
					60			CONTD-

DRILL-HOLE NO U.A7-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					61		1.65 (1.55)	Core loss in Sandstone
	61.40							61.40
61.40								Upper .15 m is of greyish black N2 colour, when Sandstone as the lower Sandstone light grey N7, very fine to fine, subrounded, sorted, soft, loose
					62		1.0	62.40
	(3.05)	1.0	32.7%		63		2.05	Core loss in Sandstone
					64			64.45
64.45	64.45							
	(0.70)	0.45	64%				0.45	Sandstone Light grey N7, very fine to fine grained, subrounded, sorted, soft, loose friable
	65.15				65		0.25	Core loss in Sandstone 64.90 65.15
65.15							0.40	Sandstone light grey N7, fine grained, subrounded, sorted, soft loose friable, but hard & Compact Sandstone nodules are also present 65.55
	(2.35)	0.40	17%		66		1.95	Core loss in Sandstone
					67			67.50
	67.50							
							0.40	Core loss in Sandstone 67.90
					68		1.0	claystone (Alternate layers of claystone, thin laminae and patches of Sandstone with bands of Siderite). Dark grey N3 Pyrite, v. f to medium hard, Compact, Sandy, Sandstone 68.90
	(3.05)	2.65	86.8%		69		1.47	Sandstone Dark grey N3, but middle part greyish black N2, very fine to fine, subrounded, sorted, muddy very hard in middle part, thin laminae of Coal ?
					70			Contd.

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DRILL-HOLE NO WAT-10

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION (contd from previous page)
							1.42	in middle part, Siderite, Coaly, Pyritic 70.32
	70.55						0.23	Carbonaceous Shale — Greyish black N2, medium hard, medium compact, sandy, coaly partings 70.55
70.55	(2.55)	2.30	90%		71, 72		1.57	claystone — Alternate layers of claystone and thin laminas and patches of sandstone. Dark grey N3 to greyish black N2, medium hard, medium compact sandy laminas and patches, sand grains are mostly fine to medium. Carbonaceous shale and carbon specks and patches present, coaly specks, pyritic, burrowed. 72.12
							0.53	Sandstone — Dark grey N3 to blackish grey N2, medium to fine grained, subrounded, sorted, carbonaceous, muddy, coaly partings, highly pyritic 72.65
							0.25	Core loss in sandstone 72.90
	73.10				73		0.20	~~claystone~~ — Dusky yellowish brown 10YR 2/2, medium hard, medium compact 73.10
73.10							0.50	Core loss in sandstone 73.60
	(3.05)	2.55	83.6%		74, 75		2.55	Sandstone — Light grey N7 to medium light grey N6, very fine to fine, subrounded, sorted, soft, loose but very hard sandstone nodules present. Middle part alternate sandstone and thin laminas of claystone. Sandstone is very hard in lower part, siderite 76.15
	76.15				76			
76.15	(3.05)	3.05	100%		77, 78		1.90	Sandstone — Light grey N7 to dark grey N3, very fine to fine but at places medium grained, subrounded, medium sorted, loose at places, sideritic patches present, at places slightly gritty, lower part is comparatively hard and comparatively compact 78.05
							0.50	Sandstone 78.55 — Light brownish grey 5YR 4/1 to dark grey N3, comparatively hard + compact than upper unit
	79.20				79		0.65	Sandstone 79.20 — Light grey N7 to dark grey N3, very fine to fine, subrounded, loose, sandy nodules present at places, siderite at places 79.20
79.20	(1.30)	1.5	88.4%				0.15	Core loss 79.35
							0.23	Sandstone — Medium dark grey N4, dark grey N3, fine grained, [illegible] 79.58
					80		0.92	Claystone — Dark grey N3, medium hard, medium compact, sideritic nodules present, silty and sandy

contd

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								laminations. Carbon specks present.
	80.50							80.50
80.50	(2.25)	1.55	68.8%		81		.80	Claystone Dark grey N3, medium hard, medium compact burrows present, Sideritic nodules, upper & middle portion of the unit have frequent lamination of Sideritic patches & lenses, silty, sandy, carbon specks
	82.75						81.30	
							.75	Sandstone Dark grey N3 to greyish black N2, Sand Clay ratio 70:30, medium to fine grained, subangular to subrounded, medium sorted, comparatively loose
					82			82.05
							0.70	Core loss
								82.75
82.75	(3.05)	1.95	63.9%		83		0.6	Sandstone Brownish grey 5YR 4/1 to dark grey N3, fine to very fine clayey at places, subrounded, highly calcareous appears to be quartzitic, grains densely cemented
								83.35
					84		1.35	Sandstone Fine to medium grained, subangular to subrounded, medium sorted, loose, poorly cemented, clayey laminae, organic material at place.
								84.70
					85		1.10	Core loss
	85.80							85.80
85.80	(2.05)	1.10	53%		86		0.95	Core loss
								86.75
	87.85				87		1.10	Sandstone Medium dark grey N4 to greyish black N2 Coarse to fine, silty at places, subangular subrounded, medium sorted, poorly cemented, lower half darker in colour with higher organic content
								87.85
87.85	(1.00)	1.0	100%		88		1.00	Claystone. Brownish black 5YR 2/1, thinly laminated, very fine coal laminae at places, alternate lenses of Siderite
	88.85							88.85
88.85	(3.05)	1.75	57%		89		1.30	Core loss
					90			Contd

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Core loss 90.15
					91		1.75	Sandstone — upper 5cm claystone with very fine sandy laminae, below this claystone 16cm thick quartzitic sandstone of white colour, very hard densely cemented with Calcium Carbonate, remany sandstone : medium dark grey N4, clayey at places, medium to fine grained subangular to subrounded
								91.90.
	91.90							↑91.90
91.90					92		.25	Core loss 92.5
							.56	Sandstone — Medium dark grain N4, very fine to fine but medium to coarse at places, poorly sorted siderite nodules, pyritic patches 92.71
		(3.05) 2.80	89%		93		1.51	Carby shale — Greyish black N2 to brownish black 5yr2/1, richly pyritic, about 3cm from top, 10cm thick dirty coal type lignitic fractured material developed. In upper part very fine silty laminae present whereas in the lower part very fine coaly laminae present.
					94			94.22
	94.95						0.73	Claystone — Silty Component evenly distributed throughout the unit medium dark grey N4, mostly breaks horizontally, pyritized coaly fragments at places 94.95
94.95		(3.05) 3.05	1m		95		1.59	Siltstone — Medium dark grey N4 to dark grey N3 and greyish black N2 where coaly, medium to finely laminated. 46cm below upper contact a band of richly carbonaceous sandstone which medium to fine grained subangular to subrounded. medium sorted pyritic 96.54
					96			
					97		1.46	Sandstone — Light grey N7, fine to very fine, very fine irregular + broken fragments and laminae of coaly material, pyritized organic material, siderite nodules, at places 98.00
	98.00				98			
					99		3.05	Sandstone — Light grey N7, fine to very fine irregular & broken fragments of coaly material, pyritized organic material, siderite nodules at places. In lower part colour of
					100			↑ contd

DRILL-HOLE NO. JAT-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					101			Sandstone is lighter and grains become coarser.
	101.05							101.05
101.05		(3.05) 2.00			102		1.62	Claystone — Medium grey N5 to dark grey N3 greyish black N2 at places below 24cm upper contact more than 60cm of the unit is richly carbonaceous where flaky coal fragments and laminae are richly present, massive to finely laminated.
								102.67
					103		0.38	Sandstone — Medium dark grey N4, silty, fine to very fine, poorly sorted, argillaceous, massive, loosely cemented
								103.05
							1.05	Core loss
	104.10				104			104.10
104.10		(3.05) 2.60			105		2.60	Sandstone — Fine to very fine, lower one meter is finely laminated, alternate clayey and siltstone. Sandstone is throughout silty, carbonaceous material & siderite nodules present throughout the unit, very fine coaly & clayey laminae
					106			106.70
					107		0.45	Core loss
	107.15							107.15
		(3.05) 1.50	49%		108		1.50	Sandstone — Light grey N7 to medium light grey N6 fine to very fine, loosely cemented very fine coaly and clayey laminae present, thick siderite nodules upto 4cm, finely laminated to massive
								108.65
					109		1.55	Core loss
					110			Contd

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					110			110.20
110.20	(3.05)				111			Core Loss
					112		3.05	
					113			113.25
113.25	(3.05)	0.20	6.5%		114			
					115		2.85	Core Loss
					116			116.10
	116.30						0.20	Sandstone: Yellowish grey 5Y 7/2, upper part loose, lower part dense and compact well cemented (lower part), fine to very fine, blackish tint — 116.30
116.30							0.15	Sandstone: badly admixed with recent alluvium due to poor method of extraction from the hand — 116.45
	(3.05)	0.75	24.5%		117		0.60	Sandstone: Medium grey N5 to medium dark grey N4, fine to very fine poorly cemented, loose, fine coaly patches at places, siderite nodules — 117.05
					118		2.30	Core Loss
	119.35				119			119.35
119.35							0.79	Silty Sandstone: Light grey N7, fine to medium grained subangular to subrounded, poorly sorted, silty matrix, medium hard
					120			

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								contd. medium bedded, pyritic, burrowed, clayey patches, black grains? ferromagnesian 120.14
	(3.05)	1.25			121		2.26	Core Loss (in sst)
	122.40				122			122.40
122.40							0.24	Sandstone very light grey N8, medium to coarse grained, subangular to subrounded poorly sorted, hard, compact, coaly specks in base beds 122.64
	(3.05)	0.24	7.8%		123			
					124		2.81	Core Loss (in sandstone)
	125.45				125			125.45
125.45							0.10	Sandstone very light grey N8, medium to coarse grains, subangular to subrounded 125.55
							0.16	Sandstone light grey N7, medium to very coarse, subrounded, poorly sorted, soft, loose 125.71
	(3.05)	0.26	8.5%		126			
					127		2.79	Core Loss (in sandstone)
	128.50				128			128.50
					129			Core Loss (in sandstone)
					130			(CONTD)
					12			

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					131		3.05	Core Loss (in Sandstone)
	131.55							131.55
131.55							0.2	Silty Sands — Light grey N7 very silty medium grained, subangular to subrounded, pyritic, Carby partings 131.75
	(3.05)	1.15	37.7%		132		0.95	Silty Sandstone — Light grey N7 to medium dark grey N4, very fine to fine, subrounded, sorted, silty, medium hard, Compact, pyritic, burrowed, seems to be rooted?, clayey patches present, Carby tiny partings more Carby lower part 132.70
					133		1.90	
	134.60				134			Core Loss (in Sandstone) 134.60
134.60								
	(3.05)	2.22	72.7%		135		.83	Core Loss 135.43
							.21	Sandstone — Light grey N7, very fine to fine, but lower part fine medium grained, subrounded, upper part silty, Carby specks in middle part 135.64
					136		0.41	Claystone — Medium dark grey N4, medium hard, silty, pyritic, rooted Carby specks and patches present, burrowed at one place 136.05
							0.28	Very Carby Shale — Greyish black N2, medium hard, Compact high Sp. grav. to clayey patches + alternate Coaly specks partings + laminae present 136.33
							0.40	Coal — Coal seam UAT-10-1, Grayish black N2, soft, brittle, lower part is black, pyritic, resin rare 136.73
							0.40	Claystone — Medium dark grey N4 to dark grey N3, medium hard, Compact burrowed, burrows filled with Sandstone, Carby specks present pyritic 137.13
					137		0.52	Sandstone — Light grey N7, very fine to fine, subrounded, sorted, silty, medium hard, medium Compact, burrowed, Carby specks present 137.65
	137.65							
	(3.05)	2.55	83.6%				0.40	Sandstone — Light grey N7, very fine to fine, subrounded, silty, clayey patches and Thin laminae and layers present, Carby specks + patches present. 138.05
					138		0.60	Siltstone — Medium light grey N6, medium hard, medium Compact, pyritic Carby specks + patches present, Siderite, micaceous 138.65
							0.30	Carbonaceous Shale — Dark grey N3 to greyish black N2, medium hard, medium Compact Coaly Thin layers, laminas + patches, pyritic 138.95
					139		0.90	Claystone — Medium dark grey N7, very fine to fine, subrounded, sorted, silty in upper part, medium hard, medium Compact, Carby specks present. 139.85
					140		0.35	Sandstone — Light grey N7, very fine to fine, subrounded, sorted, 140.20

Contd

Contd

DRILL-HOLE NO UAT-10

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								silty in upper part, medium hard, medium compact, Carby Specks present 140.20
	140.70						0.50	Core Loss in Sst 140.70
140.70	(3.05)	0.26	8.5%		141, 142, 143		2.79	Core Loss 143.49
	143.75						0.26	Sandstone — Dark grey N3, very fine to fine grained, subrounded, sorted silty, muddy, soft, loose, Carbonaceous 143.75
143.75					144		0.42	Sandstone — Medium light grey N6, very fine to fine grained, subrounded sorted, soft, loose, alternate thin laminae, layers & patches of Coal present 144.17
	(3.05)	0.42	13.7%		145, 146		2.63	Core Loss (in Sandstone) 146.80
	146.80						0.15	Silty Sandstone — (Alternate layers of claystone, sandstone + siltstone) light grey N7, very fine to fine grained, subrounded, silty 146.95
146.80					147		0.30	Sandstone — (More Carbonaceous Sandstone) Medium dark grey N6, very fine to fine grained, subrounded, poorly sorted, Carbonaceous + coaly layers 147.25
	(3.05)	0.45	14.7%		148, 149		2.60	Core Loss in Sandstone 149.85
	149.85				150		0.12	Claystone — light grey N7, medium hard, medium compact, sandy patches present, coaly specs 149.97

Contd

Form 3a

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DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							0.28	Carbonaceous Shale — Dark grey N3, med hard, med Compact, Sandy patches, Coaly Specks + Thin laminae, Pyrite turns to very Sandy 150.25
	(3.05)	1.6	52.5%		151		1.20	Sandstone — Light grey N7, very fine to fine grained, Subrounded, poorly Sorted, very hard, Compact, Silty, burrowed Carby in upper part, Cross bedded, rare ferromagnesian grains 151.45
152.90					152		1.45	Core Loss 152.90
152.90	(3.05)	1.30	42.6%		153		1.30	Sandstone — Light grey N7 very fine to fine grained, Subrounded, medium hard, Sorted, medium Compact, slightly Carby at places, more Carby specks + patches towards lower part, rare glauconite grains 154.20
155.95					154		1.75	Core Loss 155.95
155.95	(3.05)	1.05	34.4%		156		0.55	Claystone — Light bluish grey 5B7/1, medium hard, medium Compact, Soapy feel, Sticky, Coaly specks at places, seams in the rocks 156.50
							0.50	Sandstone — Medium dark grey N4, very fine to fine, Subrounded, Sorted, Silty 157.00
					157		2.0	Core Loss 159.00
159.00	(3.05)	1.45	47.5%		159		0.10	Claystone — Light bluish grey 5B7/1, Carby specks + patches, more Coaly in lower part 159.10
							0.12	Coal — Greyish black N2, Soft, friable, Flaky, vesicular, Pyrite 159.22
							0.52	Siltstone — Medium dark grey N4, medium hard, Compact, Sandy Coaly Specks, Pyrite present, more Carby towards lower part 159.74
					160		0.71	Claystone — Light bluish grey 5B7/1, medium hard, medium Compact

Contact

Contact

2

Form 3a

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DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					160			Sticky, slightly silty & sandy at places, carbonaceous at places. 160.45
					161		1.60 (1.68)	Core Loss (in claystone ?)
	162.05				162			162.05
162.05		(3.05)	2.00	65.5%			0.74	Silty Sandstone — Light bluish grey 5B7/1, Medium to Coarse grained, Subrounded, sorted, very hard, Compact, Silty, pyritic, Carby Specks. 162.79
					163		0.56	Silkstone — Light bluish grey 5B7/1, Medium hard, medium Compact, Slightly Sandy, Carby Specks, pyrite present. 163.35
							0.70	Claystone — Light bluish grey 5B7/1, medium hard, medium Compact, Soapy feel, Carby Specks, pyritic more Carby in lower part. 2cm coaly band in clay. 164.05
					164			
							1.05	Core Loss
	165.10				165			165.10
165.10							0.30	Claystone — Light bluish grey 5B7/1 to medium grey N5, medium hard & Compact, Carby bands & Coaly Specks. 165.40
		(3.05)	0.30	2.75%	166			Core Loss (in claystone ?)
					167		2.75	
	168.15				168			168.15
							0.7	CLAYSTONE Same as above 168.85
							0.18	COAL Brownish black 5YR 2/1 low sp. gravity, flaky, brittle, pyritic veinlets
							0.15	Carby Shale Greyish black N2 to dark grey N3, medium Compact, clay laminae 169.18 169.03
		(3.05)	0.40	13.1%	169			Core Loss
					170			Continued
					2			

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					171		2.02 (2.65)	Core Loss
	171.20							171.20
171.20							0.30	Claystone — Medium dark grey N4 to dark grey N3, med hard, med Conchoidal, Silty at Base, Carby patches 171.50
							0.40	Calcareous Sandstone — Light grey N7 to medium grey N5, quartzitic medium to Coarse grained, Subrounded 171.90
					172		0.36	Silty Sandstone — Medium dark grey N4 to medium grey N5, very fine to fine grained, Subrounded, Sorted, Silty Carby patches 172.26
	(3.05)	1.06	35.1%				(1.99)	Core Loss
	174.25				173			
174.25					174			174.25
							0.70	Silty Sandstone 174.95
	(3.05)	0.70	22.9%		175			
					176		2.35	Core Loss
	177.30				177			177.30
177.30							0.70	Silty Sandstone — Light grey N7, very fine to fine, Subrounded Sorted, Silty, Soft, medium Compact, ferrugenous Carby particles present 178.00
	(3.05)	0.45			178			Core Loss
					179		2.35	
					180			Continued to the other page
								→ contd
					1			
					2			

Form 3a

DRILL-HOLE NO UAT-10

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	180.35				180			Continued from the last page Core Loss 180.35
180.35	182.85 (2.50)	NIL	0%		181, 182		2.50	Core Loss (In sandstone)? 182.85
182.85	183.40 (0.55)	0.10	18%		183		0.45	Core Loss 183.30
							0.10	Claystone. Medium grey N4, medium hard, med compact, soft, sticky, sandy, coaly specks + patches ↑
183.40	186.45 (3.05)	2.61	85.5%				0.44	Core Loss 183.40
							0.10	Sandstone light grey N7, medium to coarse grain, subrounded, poorly sorted, soft, loose [illegible] 183.84
					184		0.45	Siltstone (Siltstone + Sandstone ratio 60:40) Medium grey N4, medium hard compact well burrowed, sand grains medium to coarse [illegible], carby specks 183.94 ↗
							0.8	184.39 Claystone Light grey N7, medium hard, medium compact, soapy feel, carby specks, more coaly towards lower part 184.65
							0.14	Coal Greyish black N2 blocky clayey patches, rare pyrite resinous 184.79
							0.07	Claystone Dark grey N3, medium hard compact, coaly specks, laminae + patches present 184.86
							0.13	Highly Carby Shale Dark grey N3 to greyish black N2, coaly specks, less carby in lower part, med hard 184.99
					185		0.22	Claystone Dark grey N3 to med light grey N6, med hard, compact, silty, sandy, coaly specks, micaceous 185.21
							0.82	Siltstone Olive grey 5Y 4/1 to medium grey N4, hard, compact, sandy, coaly specks, plant imprints present. 186.03
	186.45				186		0.42	Sandstone Patches of claystone + siltstone also present, light grey N7 to med grey N4, very fine to fine grain, subrounded, sorted, clay + silty [illegible] 186.45
186.45	189.50 (3.05)						0.45	Sandstone (Sandstone siltstone ratio 65:35) Light grey N7 to medium grey N5, very fine to fine, subrounded, very silty at places, coaly specks, pyritic, burrowed 186.45 ↗ 186.90
					187		0.61	Sandstone Light grey N7 to medium light grey N6, fine to coarse grained, subrounded, poorly sorted, very hard, very compact, calcareous in middle + lower part, [illegible] grain present 187.51
	189.50				188, 189		1.99	Core Loss 189.50
189.50					190		.75	Sandstone Medium light grey N6 to medium grey N5. Fine to coarse grained, loose, rare glauconite

contd —

Form 3a

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DRILL-HOLE NO VAT-10

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					190			Sand grains are subangular to subrounded 190.25
	(3-05)	0.75	24.5%		191		2.30	Core Loss
	192.55				192			192.55
192.55							.70	Sandstone Light Grey N7 to light Olive grey 5Y6/1. Fine to Coarse grain, subangular to subrounded, Cross bedded, hard, Compact, Clayey patches present, Coaly specks present, Glauconite present. 193.25
							0.32	Sandstone Light grey N7 to light Olive grey 5Y6/1, Fine to Coarse grained mostly medium grained, subangular to subrounded, loosely cemented 193.57
	(3-05)	1.02	33.5%		194		2.03	Core Loss
	195.60				195			195.60
195.60					196		0.70	Core Loss 196.30
	(3-05)	2.35	77%		197		1.42	Siltstone Medium light grey N6 to medium grey N5, hard, Compact Sandy patches, Sandy layers present, Carby specks, burrows, rooted. Sand:Silt ratio is 80:20 respectively 197.72
	198.65				198		0.93	Sandstone Medium light grey N6 to medium grey N5 fine to medium, subangular to subrounded, Carby specks, dark brown & black grains, probably ferruginous mineral present 198.65
198.65					199		0.70	Silty Sandstone Medium light grey N6 to medium grey N5, fine to medium grained. Siltstone layers & patches. Sand & Silt ratio is 65:35 199.35
							0.25	Silty Claystone Medium dark grey N4, medium hard, medium compact, 10cm from top is Sandstone & 4cm thick 199.60
							0.50	Sandstone Medium light grey N6 to medium grey N5, fine to medium subrounded & poorly sorted, hard & Compact 200.10
					200			

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								200.10
							0.31	Sandstone Olive grey 5Y 4/1 to medium dark grey N4, fine to medium, soft loosely cemented, Coaly specks present 200.41
	(3.05)	2.1	68.8%		201		0.95	Core Loss 201.36
	201.70						0.22	Coalseam Greyish black N2, pyritic, flaky, blocky, rare resin, sandy patches present 201.58
201.70							0.12	Carby Shale Greyish black N2, medium hard, medium compact, clayey patches present, Coaly specks 201.70
					202		0.40	Carby Shale Greyish black N2, medium hard, medium Compact, alternate Shale & Sandy laminae, Vetreins, Coaly specks, pyritic patches 202.10
							0.32	Claystone Dark grey N3 to blackish grey N2, medium hard, medium Compact, pyritic, Carby tiny specks present 202.42
							0.28	Carby Shale Dark grey N3 to blackish grey N2, soft to medium hard medium Compact, Carby & Coaly specks, pyritic, vetreins 202.70
	(3.05)	3.05	100%		203		1.05	SILTSTONE Light bluish grey 5Y 4/1, medium hard, medium Compact, at places very Sandy, Clayey layers present, Carby specks present, pyritic 203.75
					204		0.50	Claystone Light bluish grey 5Y 4/1, medium hard, Compact, Silty, Carby patches, rare pyrite 204.25
	204.75						0.50	Core Loss 204.75
204.75					205		0.50	Sandstone Light grey N7, very fine to fine, Subangular to Subrounded, Sorted, Silty, ferromagnesian grains 205.25
	(3.05)	2.95			206		2.35	Siltstone Light bluish grey 5Y 4/1 to medium light grey N6, medium hard, medium Compact Sandy, clayey layers at places, Carby and Coaly specks, plants imprints in Coaly specks
	207.80				207			207.60
							0.10	Sandstone Light grey N7, medium grained, Subrounded, Sorted, hard, Compact 207.70
							0.10	Core Loss 207.80
							0.15	Sandstone Light grey N7, fine grained, Subangular, Sorted, rare black part, Clayey 207.95
					208		0.10	Claystone Medium hard, medium Compact, Slightly Silty, Soft, Sticky, rare Carby Specks 208.05
							0.20	Sandstone Light grey N7, fine grained, Subangular, Sorted, rare black partings 208.25
					209			Core Loss
					210			Contd
					211			
					212			

DRILL-HOLE NO IJAT-10

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					210		2.60	Core Loss 210.85
210.85	210.85						0.18	Sandstone Light grey N7, fine to medium grained, subrounded to rounded, sorted, hard coaly lamina & specks 211.03
	(1.97)	1.07	54.3%		211		0.89	Sandstone Light grey N7, very fine to fine grain, subrounded, sorted, above 98% silica grain 211.92
	212.82				212		0.90	Core Loss 212.82
212.82							0.14	Sandstone Light grey N7, medium grained, subrounded, sorted, above 98% silica rare ~~[illegible]~~ grains 212.96
	(1.08)	0.14	12.96%		213		0.94	Core Loss 213.90
213.90	213.90				214		1.35	Core Loss 215.25
					215		0.10	Sandstone fine grained, subrounded, sorted, above 98% silica grain 215.35
	(3.05)	1.70	55.7%				0.34	Claystone claystone silty, medium dark grey N4, medium hard, medium compact, sandy patches present, lightly pyritic at places 215.69
							0.23	Sandstone sandstone, silty, light grey N7, very fine to fine grained, subangular to rounded 215.92
					216		0.40	Sandy claystone Alternate layers of sandstone + claystone, med dark grey N4, med hard, med compact 216.32
	216.95						0.63	Silty Sandstone light grey N7 to medium grey N5, vf to fine grained, subangular to subrounded sorted; alternate thin lamination + layers of claystone 216.95
216.95					217		0.80	Core Loss 217.75
	(3.05)	2.25	73.7%		218		0.92	Silty Sandstone light grey N7 to med dark grey N4, v.f to fine in lower part, fine to coarse grain subangular to subrounded medium hard, med compact 218.67
	220				219		1.33	Claystone Light bluish grey 5B7/1, med hard, med compact, sandy ~~[illegible]~~ at places, coaly specks, soft sticky, seems to be rooted 220.00
220					220			
					1			
					2			

DRILL-HOLE NO UAT-10

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
220.00	(3.05)	3.05	100		220		0.82	Silty Sand Stone — light grey N7 to light bluish grey 5B7/1 very fine to fine grained, subrounded, silty massive, lower part more silty + clayey 220.82
					221		0.38	Siltstone — light bluish grey, med hard, med compact clayey patches + specks, seems to be rooted 221.20
							0.26	Silty Sandstone 221.46
	223.05				222		1.59	Sandy claystone — Light grey N7 to light bluish grey 5B7/1, med hard, med compact Sandy silty at places, Carbon specks + patches present 223.05
223.05					223			CORE LOSS (SLST ?)
	225.00				224		1.95	Siltstone - Medium dark grey N5, fewer blackish tints at places, probably due to organic material, Sandy towards bottom, massive bedding 225.00
					225			END
					226			
					227			
					228			
					229			
					230			

DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH IN METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
0.0	2.00	NON-CORING	N.C.	N/C	0.00 1 2		2.0	RECENT_ALLUVIUM/SILTY CLAYS. Light brown, soft, powdery, very fine gr mica ceous, clayey minerals. ? 2.00
2.00	4.00	"	"		2 3 4		2.0	Clays: Light brown, sticky, silty 4.00
4.00	6.00	"	"		4 5 6		2.0	SILTY SANDE: Light gray, fine to very fine gr, subangular to subrounded poorly sorted, micaceous (biotite muscovite) clayey, black, parting. 6.00
6.00	8.00	"	"		6 7 8		2.0	SILTY SAND: Same as above. 8.00
8.00	10.00	"			8 9 10		2.0	SILTY SAND: Same as above. 10.00
					11 12			

DRILL-HOLE NO DAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10.00	12.00	NON-CORING					2.00	SILTY SAND : Same as above. 12.00
12.00	14.00						2.00	SILTY SAND : Same as above. 14.00
14.00	16.00	NON-CORING					2.00	SILTY SAND : Same as above. 16.00
16.00	18.00						2.00	SILTY SAND : Same as above. 18.00
18.00	20.00	NON-CORING					2.00	SILTY SAND : Same as above. 20.00

Form 3b

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DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								20.00
20.00	22.00						2.00	SILTY SAND: ; Same as above.
								22.00
22.00	24.00						2.00	SILTY SAND : Same as above
								24.00
24.00	26.00						2.00	SILTY SAND : Same as above.
								26.00
26.00	28.00						2.00	SILTY SAND Same as above
								28.00
28.00	30.00						2.00	SILTY SAND: Same as above.
								30.00

DRILL-HOLE NO OAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								30.00
30.00	32.00		NON-CORING				2.00	SILTY SAND: Same as above 32.00
32.00	34.00						2.00	SILTY SAND: Same as above 34.00
34.00	36.00		NON-CORING				2.00	SILTY SAND: Same as above 36.00
36.00	38.00				37		1.00	SILTY SAND: Same as above. 37.00
							1.0	LIMESTONE: Sandy: Light gray to light brown, hard, compact, calcitic Sand grains coarse to med, subangular to subrounded. 38.00
38.00	40.00		NON-CORING				2.00	LIMESTONE: Same as above. 40.00

RECENT DEPOSIT

37.00

LAKHIRA FM

DRILL-HOLE NO OAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								40.00
40.00	42.00						2.00	LIMESTONE: / SANDY CLAYS light brown, to light gray, fine to medium grained, micaceous, lst cutting may be from the top. 42.00
42.00	44.00						2.00	SANDSTONE / SILTY CLAY Limestone cutting from upper part of the hole. 44.00
44.00	46.00						2.00	SANDSTONE / SANDY CLAYSTONE lst cutting from upper part of the hole 46.00
46.00	48.00						2.00	SANDSTONE / SANDY CLAYSTONE Same as above. 48.00
48.00	50.00						2.00	SANDY CLAYS: light gray, med gray, micaceous, very fine to med gr. silty 50.00

DRILL-HOLE NO. NAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								50.00
50.00	52.00						2.00	SANDY CLAYS: Same as above
								52.00
52.00	54.00						2.00	SANDY CLAYS: Same as above.
								54.00
54.00	56.00						2.00	CLAYSTONE: light brown, gray, sticky Same as above.
								56.00
56.00	58.00						2.00	SILTY CLAY: light gray, very fine to med gr, subrounded, micaceous few lst cutting from upper part of the hole.
								58.00
58.00	60.00						2.0	SILTY CLAY: Same as above.
								60.00

Form 3b

-700-

DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								60.00
60.00	62.00	NON-CORING					2.00	SILTY CLAYS Same as above. 62.00
62.00	64.00	NON-CORING					2.00	SILTY CLAY : Same as above. 64.00
64.00	(1.80) 65.80	1.80	100%		65		1.80	CLAYSTONE: Olive gray 5Y 4/1, semi hard, semi compact, slightly silty, slickensided compaction and some sandy patches, very fine grained, mostly subrounded, also contain pyritic globules at places and fine fossil fragments, slightly calcareous 65.80
65.80	(3.05) 68.85	3.05	100%		66		2.18	CLAYSTONE : Same as above. but more fossiliferous towards base and also colour grades into greenish gray 5GY 6/1, 67.98
					67			SILTY CLAYSTONE : Greenish gray 5GY 6/1, semi hard, semi compact, fossil shell fragment common highly fossiliferous, highly calcareous 68.20
					67.98			
					68		0.40	LIMESTONE: Greenish gray 5GY 6/1, hard, compact fossiliferous. (forams) 68.85
					68.20			
					68.85		0.65	LIMESTONE : Same as above 69.17
68.85		3.05	100%		69			MARL / SILTY CLAYSTONE: 5GY 6/1, Greenish gray semi hard, compact, calcareous, fossiliferous (forams) pyritic at places.
					69.17			
					70			→ contd

NON-CORING

CORING STARTED

DRILL-HOLE NO U.AK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.05) 71.90	3.05	100%		71		2.73	cont'd from previous page ← MARL / SILTY CLAYSTONE 5GY6/1, Greenish gray, semi hard, compact calcareous, fossiliferous (forams) pyritic at places 71.90
71.90					72		0.55	LIMESTONE: 5GY 6/1 Greenish black, semi hard compact, fossiliferous 72.45
	(3.00) 74.90	3.0	100%		72.45		0.50	MARL / SILTY CLAYSTONE; 5G 2Y/1 Greenish black, semi hard, compact. fossili shell fragments (forams) 72.95
					73		0.89	CLAYSTONE: Olive black 5Y 2/1 Semi hard, Semi compact. fossil shell fragments, slightly Marcasitic 73.84
					73.84			SILTY CLAYSTONE / MARL Greenish gray 5GY 6/1 Semi hard semi compact, rich in fossil shell fragments. 74.34
					74		0.50	CLAYSTONE: olive black 5Y2/1, semi hard, semi compact rarely fossils, silty light brown module. 74.90
					74.34		0.56	CLAYSTONE: Same as above. 75.55
74.90	(1.65) 76.55	1.65	100%		75		0.65	MARL / CALCAREOUS CLAYS: Greenish gray 5G2Y/1, Semi hard, semi compact, silty sandy, highly calcareous rich in fossil shell fragment forams 76.55
					75.55			
					76		1.0	LIMESTONE: Light gray N7, hard, compact, fossiliferous forams, marly at base and pyritic 77.95
76.55	(1.40) 77.95	1.40	100%		77		1.40	CLAYSTONE: olive black 5Y2/1 semi hard, semi compact, fossiliferous, forams, pyritic globules at places 79.30
77.95					78		1.31	MARL / SILTY SAND CLAYSTONE: Greenish gray 5G 2Y/1, semi hard, semi compact, fossiliferous forams. Silty and sandy fine to med, subangular to subrounded grains, calcareous 81.00
	(3.05) 81.0	3.05	100%		79			
					79.30			
					80		1.70	
					81			

Form 3b

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DRILL-HOLE NO DAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								MARL / SILTY SANDY CLAYSTONE : Same as above. 81.85
					81			CLAYSTONE : Olive Black 5Y 2/1, Semi hard, Semi compact, fossil shell fragments, slightly pyritic 82.75
81.00	(3.05)	2.50	81.96 %		81.15		0.15	
					82		1.60	SILTY CLAYSTONE / MARL : Greenish gray 5GY 2/1 Semi hard, Semi compact, fossiliferous, silty Sandy, fine to medium gr. Sub angular to Subrounded, calcareous
					82.75			CLAYSTONE : Olive Black, 5Y 2/1, Same as above 83.50
					83		0.45	
					83.20		0.30	CORE LOSS 84.05
							0.56	CLAYSTONE : Same as above 84.82
84.05					84			
	(3.05)	2.75	90.18 %				0.77	SILTY CLAYSTONE / MARL : Greenish gray 5GY 2/1, Semi hard, Semi compact Silty and Sandy, fine to medium, Subangular to subrounded, fossiliferous, soft, clayey Silty 86.22
					84.82			
					85		1.40	
					86			
					86.22		0.58	SANDSTONE : Dark Greenish gray 5GY 4/1 fine to medium grained, Subangular to Subrounded, soft, clayey, Silty 86.80
87.10					87		0.30	CORE LOSS : Same as above. 87.10
	(1.55)	1.25	80.64 %				1.25	CLAYSTONE : Olive Black 5Y 2/1, Semi hard Semi compact, slightly silty and sandy, fine gr sst. mostly subrounded grains, pyritic, fossil shell fragment 88.35
					88			
					88.35		0.30	
88.65					88.65			CORE LOSS : Same as above 88.65
	(1.50)	1.50	100 %		89		1.50	CLAYSTONE : Same as above. 90.15
90.15					90			CLAYSTONE : Same as above 90.34
					90.34		0.19	SILTY SANDY CLAYSTONE : Greenish gray 5GY 2/1 Semi hard, Semi compact, fossiliferous, calcareous 90.96
							0.62	
					90.96			
					100			

DRILL-HOLE NO. AK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					90			CLAYSTONE: olive black 5Y 2/1, semi hard, semi compact, slightly pyritic, fossiliferous, forams, calcareous 91.51
					90.96			SILTSTONE: light greenish gray, hard, compact fossiliferous, calcareous, nodular 91.94
					91		0.55	
	(3.05)	3.05	100%		91.51			CLAYSTONE: olive black 5Y 2/1, semi hard semi compact, fossiliferous, shell fragments, slightly silty, slightly pyritic, burrows 93.20
					91.64		0.13	
					92		1.56	SILTYCLAYSTONE: olive black 5Y 2/1, semi hard semi compact contain fossil shell fragment at places and light yellowish brown siderite nodule at places, pyritic, some sandy patches at places, fine grained mostly subrounded grains 96.25
					93			
93.20					93.20			
					94		3.05	Claystone, olive black 5Y 2/1, semi-hard, semi compact, pyritic, containing fossil shells 97.55
	(3.05)	3.05	100%		95			Silty/sandy claystone, olive black (5Y 2/1), semi hard, semi compact, fine to med. grained sandstone, mostly subrounded grains, fossil shell fragments present, glauconite pellets, forams 98.07
					96			
96.25					96.25			
					97		1.30	Claystone olive black 5Y 2/1, semi hard semi compact, containing sandy patches at places, fine to medium grained sandstone with subrounded grains, pyritic at places with fossil shell fragments 98.37
	(3.05)	3.05	100%		97.55		0.52	
					98			
					98.07			
					98.37		0.32	Sandy claystone, greenish grey 5GY 2/1 semi hard and semi compact, fine to med. grained s.st. mostly subrounded grains, rich in shell fragment fossils forams 98.56
					98.55		0.18	
					99		0.74	
99.30					99.30			
					100			Limestone, light greenish grey, hard, compact, pyritic and fossiliferous with forams. 99.30

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Form 3b

-704-

DRILL-HOLE NO DAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.00)	3.00	100 %		100		3.0	Sandstone olive black 5Y 2/1, semi hard semi compact, clayey at top, fine to medium grained with subangular to subrounded grains, slightly carbonaceous and pyritic with rare fossil fragments.
	102.30				102			102.30
	(3.05)	3.05	100 %		103		3.05	Sandstone, greyish black (N2) soft to semi compact, fine to medium grained, mostly subrounded grains, clayey and carbonaceous.
	105.35				104			105.35
					105			Sandstone & Sandy claystone interbedded greyish black (N3) soft to semi compact fine to med. grained s.st. with sub-rounded grains, slightly carbonaceous pyritic and contains shell fragments
					105.95			105.95
							0.60	Sandy claystone, greyish black (N3) semicompact, semihard, slightly pyritic contains shell fragment; fine to med grains of sandstone 0.07 calcareous siltstone in middle
					106		0.96	
					106.91			106.91
	(3.05)	3.05	100 %		107		0.65	Silty claystone, greyish black (N3) semihard, semicompact, pyritic, contains shell fragments forams
					107.56			107.56
	108.40				108		0.84	Sandstone, greyish black (N3) soft to semihard and semi compact fine to medium grained, mostly subrounded grains, clayey at [redacted], with rare shell fragments
					108.40			108.40
					109			

Form 3b

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DRILL-HOLE NO TJAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								108.40
108.40	(3.00) 111.40	3.00	100 %		110.0		3.0	Sandy claystone, greyish black (N3) semihard, semi compact, fine & med grained s.stone, pyritic, richly fossiliferous with shell fragments. 111.40
					111.0			Sandy claystone, greyish black (N3) semihard, semi compact, pyritic containing shell fragments.
	(3.05) 114.45	2.10	68.85 %		112.0		1.40	112.80
					112.80			Sandy siltstone, greenish grey 5GY 6/1 fine & med grained s.stone mostly subrounded & carbonaceous at the base abundant foramns, burrows 113.50
					113.0		0.70	
					113.50			Core loss 114.45
					114.0		0.95	
					114.45			Core loss 114.90
	(1.60) 116.05	1.15	71.87		114.90		0.45	
					115.0			Sandstone and silty claystone interbedded, Olive black (5Y 2/1), semihard, semi compact, fine & med grained s.st with subrounded grains and slightly carbonaceous 116.05
					116.45		1.15	
	(1.40) 117.45	1.45	100 %		117.0		1.40	Sandstone & silty claystone interbedded (same as above) 117.45
					117.45			
					118.0			Sandstone & silty claystone interbedded (same as above)
					119.0		3.0	
					120.0			
120.45		3.00	100 %		120.45			120.45

Form 3b

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DRILL-HOLE NO. VAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								122.45
120.45								
	(1.90)	0.1	100 %		121.0		1.90	Sandstone and sandy claystone interbedded (Same as above)
					122.0			122.35
122.35					122.35			Sandy claystone, greenish grey (5GY 6/1) hard & semicompact fine & coarse grained silty & slightly carbonaceous. shell fragments
					122.52		0.17	122.52
					123.0			Sandy claystone interbedded, olive-black (5Y 2/1) semicompact; fine & med grained, subangular & subrounded, pyritic, rare carbi. material. Silty nodules of light brown colour at places
	(3.05)	3.05	100 %		124.0		2.88	
					125.0			125.40
125.40								Sandy claystone interbedded with S. Stone Same as above
					126.0		1.38	126.78
	(3.05)	3.05	100 %		126.78			Quartzitic S. St. olive grey (5Y 4/1), med & coarse grained, hard and compact with subrounded grains, slightly carbonaceous.
					126.94		0.16	126.94
					127.0			Sandy claystone interbedded with S. St. olive black. Semi hard, silty & shell fragments at places. S. stone grains are coarse in nature
					128.0		1.51	128.45
128.45								Sandstone olive black (5Y 2/1) soft & semicompact; fine & med grained mostly subrounded grains and poorly sorted. clayey &
	(3.05)	3.05	100 %		129.0		0.65	129.1
					129.10			Silty claystone interbedded with S. stone olive black. carbonaceous partings, S. stone fine & med. grained mostly subrounded grains. It is pyritic and contains chalky shell fragments
					130.0		2.40	
					131.0			
131.50								131.50

DRILL-HOLE NO. UAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	131.50			131.60			1.10	Core Loss. 131.50 Sandstone 131.60
	(3.0.5)	2.95	96.72		132.0 133.0 134.0		2.95	Silty claystone and Sandstone interbedded (Same as above) 134.55
134.55								Core Loss 135.15 Sandstone
					135.0 135.15		0.60	Silty claystone and Sandstone interbedded 136.25
	(3.40)	2.40	80.0 %		136.0 136.25		1.10	Sandstone, olive black 5Y 2/1 to semi hard, fine & medium grained, mostly subrounded grains it is clayey, slightly pyritic and carbonaceous. 0.05 hard sandstone band exists at the base 137.55
137.55					137.0		1.30	
	(1.10)	0.45	40.90 %		138.0		0.45	Sandstone as above 138.00
138.65							0.65	Core loss 138.65
	(3.0)	2.20	73.33 %		139.0 139.45		0.80	Core loss 139.45
					140.0 140.41		0.96	Sandstone, same as above 140.41
					140.66		0.25	Silty clay with intercalations of S.St slightly carbonaceous and pyritic 140.66
					141.0 141.06		0.40	S.stone with clayey intercalations with subrounded to rounded grains, slightly pyritic and carbonaceous 141.06
141.65					141.46 141.51 141.65		0.40 0.14	Silty clay & S.stone 141.46 Siltstone olive grey (5Y 4/1) very hard and compact 141.51
					142.0			Silty claystone & S.St. interbedded and slightly carbonaceous

Form 3b

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DRILL-HOLE NO TAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
141.65								141.65
								Core loss
	(1.55)	NIL	NIL		142.0		1.55	Sandstone
								143.15
					143.15			Siltstone light olive grey (5Y 6/1), hard, compact, pyritic containg carbonaceous material
	143.15				143.23		0.08	143.23
	(1.55)	0.08	5.15 %					Core loss
					144.0		1.47	144.70
	144.70				144.70			Core loss
	(2.00)	0.25	12.50 %		145.0		1.75	146.45
					146.0			Sandstone, olive black 5Y 2/1, soft, fine to medium grained with subrounded grains, pyritic contains fine coaly intercalation at the (5)
	146.70				146.45			146.70
					146.70		0.25	
	(1.05)	0.90	85.71 %		146.85	X	0.15	Core loss
					147.0		0.90	146.85
	147.75							Sandstone, same as above
					147.75			147.75
					147.89		0.14	
					148.0		0.162	Sandstone & silty claystone interbedded olive black, semi hard & semi compact
					148.16		0.27	147.89
								Silty claystone containing plant fragments and sandy layers (5)
	(3.05)	2.00	65.57 %		149.0		1.59	148.16
					149.75			S. st. & silty claystone interbedded, olive black, with some hard nodules, slightly pyritic
					150.0		1.05	149.75
	150.80				150.80			Core loss
					151.0			150.80
					152.0			
					153.0			

Form 3b

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DRILL-HOLE NO DAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								150.80
150.80	(3.05)	3.05	100 %		151.0			Sandstone & Silty claystone interbedded. (Same as above)
					152.0		3.05	153.85
					153.0			Sandstone, dark grey (N3), clayey soft, fine to med. grained with dominating subrounded grains
153.85								154.27
					154.0		0.42	Claystone, olive black (5Y 2/1) semi hard, semi compact containing disseminated coal pastings, fine sandy layer at the base
					154.27		0.70	154.97
	(3.05)	3.05	100 %		154.97			
					155.0			
					156.0		1.93	Silty clay & S.st interbedded same as above.
156.90					156.90			156.90
					157.0		0.65	Sandstone & silty claystone interbedded, semihard, olive-black, pyritic, carbonaceous at the base.
	(3.05)	0.75	24.59 %		157.65			157.65
					158.0		2.30	Core loss.
					159.0			
159.95					159.95			159.95
					160.0			

Form 3b

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DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	159.95							159.95
159.95	163.0 (3.05)	1.10	36.06 %		160.0		1.10	Sandstone & silty claystone interbedded (Same as above)
					161.0			161.05
					161.05			Core loss
					162.0		1.95	163.00
163.0					163.0			Core loss
								164.05
							1.05	Carbonaceous shale & s.st. interbedded, brownish black, semi-hard semi compact, resin, pyritic
					164.05			165.26
							1.21	Coal, brownish black, semi hard & soft & semi compact & slightly pyritic (UAK 1/A)
					165.0			165.81
	166.05 (3.05)	2.00	65.57 %		165.26		0.55	Underclay, med. light grey, mottled semi hard & semi compact & pyritic
					165.81		0.12	165.93
					165.93		0.12	Carbonaceous shale, brownish black semi hard, semi compact, sandy at the base
					166.0		0.63	166.05
								Underclay, dark grey, mottled & pyritic
					166.68		0.25	166.68
					166.93			Carb. shale/dirty coal, pyritic with slickenside compaction, sandy at base
					167.0		0.60	166.93
								Underclay, olive black, semi hard & semi compact with fine sandy lenses
					167.53		0.25	167.53
					167.78			(167.78) SILTY CLAY
					168.0		1.07	S.st. med. to light grey, soft & semi hard with carb. fragments at places
					168.85			168.85
	169.05 (3.00)	2.80	93.33 %		169.0		0.20	167.78
								Core loss
								169.05

Form 3b

-711-

DRILL-HOLE NO DAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					169.2			Carbonaceous shale with b-bl. interlaminated, dark grey coloured 169.05
169.05					169.10		0.05	169.10
	(3.05)	0.05	1.63 %		170.0		3.0	Core loss
					171.0			
172.10					172.0			172.10
	(1.15)	NIL	NIL		173.0		1.15	Core loss 173.25
173.25								
	(1.90)	0.60	31.57 %		174.0		1.30	Core loss 174.55
					174.55			Silica sand, light grey, med. to coarse grained, poorly sorted with subrounded to rounded grains. 174.85
					174.85		0.30	
175.15					175.0		0.30	Silty/sandy clay, dark grey. Soft to loosely compact. 175.15
	(3.0)	1.30	43.33 %		176.0		1.70	Core loss 176.85
					176.85			Silica sand, light grey & light olive grey, loosely compact, fiable with angular & subangular grains 178.15
					177.0		1.30	
178.15					178.0			Core loss 179.33
	(1.55)	0.37	23.87		179.0		1.18	Silica sand, light olive-grey. (Same as above)
179.70					179.33		0.37	179.70
					180			

DRILL-HOLE NO DAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	179.70							Core loss 179.70
179.70	(1.50)	0.58	38.66 %		180.0		0.92	180.62
					180.62			Silica sand As mentioned above 181.20
181.20					181.0		0.58	Core loss 181.90
	(3.00)	2.30	76.66 %		181.90		0.70	Silty clay / claystone, olive black semi compact to hard at places hard nodules of siltstone, at bas carbo-material exists 182.70
					182.0		0.80	Coal (UAK 1/2) 183.10
					182.70		0.40	Dirty coal (UAK 1/3), Brownish-black to olive black, clayey & silty 183.50
					183.0		0.40	Coal, (UAK 1/4), brownish black with brown streak, compact, flaky and brittle. 184.20
					183.10			Coal (UAK 1/4) brownish black, flaky, compact with brownish streak 184.96
					183.50		0.70	Undesclay, olive grey, semi hard, with pyritic grains & carb. material gradually sandy towards base 185.80
184.20					184.0		0.76	Core loss 187.25
	(3.05)	1.60	52.45 %		184.20		0.84	Core loss 188.80
					184.96			S.st: light olive grey fine to med. grained soft to loosely compad 189.10
					185.0		0.84	Carb. S.st: dark grey to olive-black, laminated fine to coarse grained 189.50
					185.80			Silica sand, light grey, soft, loose, friable and coarse grained. 190.30
					186.0		1.45	
187.25					187.0			
	(3.05)	1.50	49.18 %		188.0		1.55	
					188.80		0.30	
					189.0		0.40	
					189.10		0.80	
					189.50			
190.30					190.0			

DRILL-HOLE NO DAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	190.30							190.30
190.30								Core Loss. 192.15
	(3.05)	1.20	39.34 %		191.0		1.85	Silica sand, light grey, loose, friable, poorly sorted, medium to coarse grained with subangular to subrounded grains. 193.15
					192.0			
					192.15		1.0	Silty clay, olive grey, thinly laminated with fine sandy clay, semi-compact. 193.35
					193.0			
193.35					193.15		0.20	
								Core loss 194.82
	(3.05)	1.58	51.80 %		194.0		1.47	Silica sand light grey, med. to coarse grained with subrounded grains. 195.82
					194.82			
					195.0		1.0	Siltstone, brownish grey, hard and compact. 196.00
					195.82		0.18	Sandstone, silty & clayey, dark grey, soft to semi compact. 196.36
					196.0		0.30	
196.40					196.30		0.10	Coal (UAK 1/6) brownish-black, flaky and compact. 196.40
					196.65		0.26	Core loss, Coal ? 196.65
	(2.05)	0.81	39.51 %		197.0		0.75	Coal (UAK 1/6) 197.40
					197.40		0.70	Carbonaceous Shale / dusty-Coal. 198.10
					198.0			
198.45					198.10		0.35	Underclay, olive grey, med. hard & med. compact; rooted too. 198.45
198.95	0.50	0.50	100.0 %				0.50	Underclay as above 198.95
	(2.50)	2.50	100.0 %		199.0		2.50	Claystone, olive grey, slightly silty with sandy inclusion and carb. scattered material.
201.45					201.0			201.45
					202.0			

DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	201.45							
201.45	(1.80) 203.25	1.80	100 %		203.0		1.80	Claystone, olive black, slightly silty & sandy with rare carbonaceous fragments, towards base sandy. 201.45
203.25	(2.35) 205.50	2.25	100 %		204.0 205.0		2.25	Silty claystone, olive grey, with thin sandy lamination, pyritic and some carbonaceous. 203.25
205.50	(3.05) 208.55	3.05	100 %		206.0 207.0 208.0		3.05	Silty claystone, olive grey, with thin sandy inclusions, compact and semi hard with rare carbonaceous fragments and slightly pyritic. 205.50
208.55	(3.05) 211.60	0.70	22.95 %		209.0 209.25 210.0 211.0		0.70 2.35	Sandstone, silty & clayey, fine grained, semi compact, poorly sorted with subangular grains soft to hard at places pyritic 208.55 209.25 100 Core loss. 211.60

Form 3b

-715-

DRILL-HOLE NO [AK-]

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								211.60
211.60					212.0			Core loss 213.25
	(3.05)	1.40	45.90 %		213.0		1.65	Underclay, med. light grey, semi hard, semi compact, crooled slightly silty with pyritic grains 214.25
					213.25		1.0	Claystone, Olive black, carbonaceous, slightly silty & sandy 214.65
214.65					214.0		0.40	Sandy claystone, olive black, sandy grains are fine, slightly pyritic. 1.04
	(1.80)	1.80	100 %		214.25			
					215.0		1.04	
					215.69			S. stone light olive grey, semi hard. fine & med. grained with sub angular grains. At the base 0.05 md. is hard and slightly calcareous 216.45
216.45					216.0		0.76	Sandstone (As above) 216.75
216.75					216.75		0.30	Core loss 216.90
216.90							0.15	Sandstone, med. grey, soft & semi hard, semi compact, cross bedded clayey at places. 0.07 md. thick silt stone band in middle exists 219.95
	(3.05)	3.05	100 %		217.0			
					218.0			Sandstone. Same as above 220.55
219.95					219.0			
	(1.30)	0.60	46.15 %		220.0		0.60	Core loss. 221.25
221.25	(0.56)	0.05	8.92 %		220.55		0.70	
221.81					221.0			
					221.76		0.51	Core loss 221.76
					222.0			S. sl. pinkish grey, hard & compact fine & med. grained. 221.81

Form 3b

-716-

DRILL-HOLE NO OAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	221.81							221.81
221.81	(3.05)	1.40	45.90 %		222.0		1.65	223.45 Silty claystone dark grey. Sandy towards top, semi carbonaceous, sandy lenses at places, slightly pyritic and rare plant fragments
					223.0			
					223.45			224.86
					224.0		1.40	Claystone carbonaceous, olive black, semi hard, pyritic.
224.86								226.30
	(3.05)	3.05	100 %		225.0		1.44	Claystone, med grey, slightly silty. (Same as above)
					226.0			227.33
					226.30		1.03	Sandstone and claystone interbedded fine to med grained Carbo lenses at places
					227.0			227.91
					227.33		0.58	Core loss
227.91					227.91			230.14
	(3.05)	0.82	26.88 %		228.0		2.23	Sandstone light grey, fine to med grained, ~~soft~~ to friable with rare carbonaceous grains
					229.0			
					230.0			230.96
					230.14		0.82	
230.96								
					231.0			

DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	230.96							230.96
	(3.05)	0.95	31.14 %		231.0			Core loss
					232.0		2.10	233.06
					233.0			Sandstone, light grey
					233.06			same as above
	234.01						0.95	234.01
	(1.50)	0.54	36.0 %		234.0			Core loss 234.97
					234.97		0.96	Sandstone light grey, coarse grained silica grains angular & sub-
					235.0		0.54	rounded, loose and friable
	235.51							235.51
	(1.55)	0.57	36.77 %		236.0		0.98	Core loss
					236.49			236.49
							0.57	Sandstone (same as above)
	237.06				237.0			237.06
	(1.30)	1.30	76.92 %		237.36		0.30	Core loss 237.36
							0.69	Sandstone (same as above)
					238.0			238.05
	238.36				238.05		0.15	Sandy claystone, carbonaceous 238.20
					238.20		0.8	Sandy coal interlayered with S. stone
					238.28		0.8	238.28
								Sandy claystone, carbonaceous
								238.36
	(1.70)	0.70	41.17 %		239.0		1.0	Core loss
					239.36			239.36
								S. stone, Light grey, mostly coarse
							0.70	grained, subangular & subrounded
	240.06				240.0			loose and friable
								240.06
	(1.50)	0.42	28.0 %		241.0		1.08	Core loss.
					241.14			241.14
								Sandstone (same as above)
							0.42	
	241.56							241.56

Form

-718-

DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	241.56							241.56
241.56	(1.55)	0.40	25.80 %		242.0		1.15	Core loss
								242.71
					242.71		0.10	Sandstone (same as above)
					242.81			242.81
243.11					243.0		0.30	Silty/sandy claystone, dark grey, carbonaceous at places
								243.91
	(3.05)	1.05	34.42 %		244.0		2.0	Core loss
								245.11
					245.0			Sandy coal, dark brownish grey, soft to semi compact.
					245.11			245.14
					245.14		1.02	Claystone/underclay, med. light grey, semi compact, pyritic, rooted with some carbonaceous material.
246.16					246.0			246.16
							1.20	Silty clay/underclay, med. light grey, rooted containing some pyritic grains
					247.0			247.36
	(2.30)	1.80	52.17 %		247.36		1.10	Core loss
					248.0			248.46
248.46								Claystone, med. grey, semi hard, slightly silty, contains base carb. specks & pyritic grains
	(1.15)	1.15	100 %		249.0		1.15	249.61
249.61								Carb. shale, greyish black, compact with some coaly flakes
					249.96		0.35	249.96
					250.0			Coal (UAK 1/8) brownish black brittle & pyritic
	(2.60)	2.60	100 %		250.46		0.50	250.46
					250.59		0.13	Carby shale, olive black, compact and pyritic
					251.0		0.75	250.59
					251.34			Claystone, med dark grey, pyritic with coaly flakes
					251.54		0.20	251.34
							0.67	Carb shale, olive-black to brownish black, coaly, pyritic
252.21					253			251.54
								Claystone, grey, sandy, pyritic base coaly

(Continued)

Form 36

-719-

DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	252.21							
252.21	(3.05)	0.1	66.99		253.0		1.15	Core loss Sandstone probably 253.36
					253.36			Carbonaceous claystone, brownish grey compact, silty, sandy and pyritic with coaly flakes 254.66
					254.0		1.30	Sandy claystone, med. dark grey with carby lsaces. 254.99
					254.66			
					254.99		0.33	S. stone, light grey, fine grained pyritic, hard at places with sub-angular grains 255.26
					255.0		0.27	
255.26	(3.05)	0.1	34.42		255.76		0.50	Silty claystone, light grey, fine grained, compact and carbonaceous 255.76
					256.0		0.55	S. stone light grey, fine to med. grains hard, compact ~~soft~~ at places 256.31
					256.31			
258.31	(3.05)	0.1	33.33		257.0		2.0	Core loss S. stone probably 258.31
					258.0			Core loss S. stone probably
					259.0			260.31
261.31	(3.00)	0.1	00		260.0		2.0	S. stone, light grey fine grained ~~soft~~ & friable with subangular grains 260.91
					260.31			
					260.91		0.60	S. stone, very hard and compact 261.01
					261.0		0.10	
					261.01		0.30	Carby. claystone, olive grey to brownish black, rich with coaly fragments 261.31

(Continues)

DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								261.31
261.31	(2.45)	1.35	55.10 %		262.0		0.81	Carbo. claystone, compact, silty, with coaly flakes and pyrite grains
					262.12		0.30	262.12
					262.42		0.24	Silty claystone, coaly partings - pyritic with sandy lamination
					262.66			262.42
					263.0		1.10	S. stone, fine grained, pyritic
263.76								262.66
								Core loss
								263.76
	(3.05)	0.5	16.39 %		264.0			Core loss probably S. stone
					265.0			
					266.0			
					266.31			266.31
266.81							0.50	Sandstone, same as above
267.36	0.55	0.20	36.0 %		267.0		0.35	266.81
					267.16		0.20	Core Loss
								267.16
	(3.00)	0.90	20.0 %		268.0		2.40	S. stone, light grey, soft to hard at places, carby. grains with subangular grains
					269.0			267.36
					269.76			Core loss probably S. stone
					270.0		0.60	269.76
270.36								Sandstone same as above.
								270.36
					271.0			
					272.0			

(Continues)

DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	270.36							270.36
270.36	(3.00) 273.36	0.40	13.33 %		271.0 272.0 272.96 273.0		2.60 0.40	Core loss probably sandstone. 272.96 Sandstone Same as above 273.36
273.36	(3.05) 276.41	0.70	22.95 %		274.0 275.0 275.71 276.0		2.35 0.70	Core loss probably sandstone 275.71 S.stone, fine to med. grained, carbonaceous, hard at places, mostly med. grained. 276.41
276.41	(3.05) 279.46	1.20	39.34 %		277.0 278.0 278.26 279.0		1.85 1.20	Core loss probably sandstone 278.26 Sandy carbonaceous clays, pyritic with silty lamination and coaly patches 279.46
					280.0 281.0			

(Continues)

DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	279.46							279.46
					280		1.55	Core loss
279.46	(3.05)	1.50	49.18%		281.01			281.01
					282		1.50	Silty clay, sandy loo, carbonaceous compact, pyritic and interbeds- tions of sandy patches & some coaly partings.
282.51								282.51
	(3.00)	0.55	18.33%		283		2.45	Core loss probably S. Stone/Siltstone
					284			284.96
284.96			0%		284.96			Siltstone, light bluish grey sandy, clayey, burrowed, pyritic and basely carby.
					285		0.55	285.51
285.51					285.76		0.25	Claystone, med dark grey, silty, sticky pyritic & carbonaceous
					285.81			285.76
	(2.45)	2.40	97.95%		286		0.35	Coal loss
					286.16			Coal (UAK 1/9)
					287		1.80	286.16
287.96								Carbonaceous claystone, dark grey, olive grey to light bluish grey and compact.
					288			287.96
					289			
					290			

(Continues)

DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
287.96	(3.05)	1.20	39.34 %		288.0 – 289.16		1.20	287.96 Silty claystone interbedded with s.stone laminae, olive black to brownish black soft but with some hard silty nodules pyritic & sandy towards bottom. 289.16
					290.0		1.85	Sandstone probably Core loss 291.01
291.01	(0.55)	0.30	54.54%		291.0		0.25	Core loss 291.26
291.56					291.26		0.30	Sandy claystone, olive black. silty too, & pyritic 291.56
	(3.00)	0.60	20.00%		292.0 – 293.0		2.40	Core loss 293.96
							0.30	Sandstone, dark grey to olive black, fine to med. grained and carbonaceous 294.26.
294.56					294.0 – 294.26		0.30	Siltstone light bluish grey, clayey sandy, pyritic with carby flakes 294.56
	(3.05)	2.00	65.57 %		295.0 – 295.21		0.65	Siltstone, same as above 295.21
					296.0 – 296.56		1.35	Sandstone, light grey, soft, friable, clayey laminae, carby at places 296.56
297.61					297		1.05	Core loss *297.61

DRILL-HOLE NO UAK-1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	297.61							297.61
	(2.50)	06.1	76.00 %		298.7		0.60	Core loss probably Sandstone 298.21
					298.21		1.00	S. stone light grey to dark grey, fine to coarse grained, subangular to subrounded. Silty, pyritic and poorly sorted. 299.21
					299.2 / 299.11		0.90	Silty claystone, Sandy Laminae light blueish grey, compact, fine grains, subangular to subrounded pyrite. 300.11
	300.11				300.3			

Bottom Of Hole

300.11 meters

DRILL-HOLE NO [illegible]

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					0			Surface covered by alluvial silt and clay, very grey N.8
					1		2m	Aluvium silt and clay admixture very light-grey N.8 (dry) light-grey N/7 to light-olive grey 5y 6/1 (Wet)
					2			2.00
					3		2m	Alluvium, silt and clay same as above
					4			4.00
					5		2m	Alluvium, silt & clay same as above.
					6			6.00
					7		2m	Alluvium, silt & clay same as above.
					8			8.00
					9		2m	Alluvium, silt & clay same as above
					10			10.00

Form 3b

L-726

DRILL-HOLE NO OAK 2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								10.00
					11		2m	Alluvium, silt & clay same as above
	12.00							12.00
12.00					12			
					13		2m	Alluvium, silt & clay same as above.
	14.00							14.00
14.00					14			
					15		2m	Alluvium, silt and clay same as above.
	16.00							16.00
					16		2m	Alluvium silt and clay same as above.
	17.00							17.00
17.00					17			
							2m	LIMESTONE, Sandy, pale orange 10 YR 8/2 to pale Yellowish orange 10 YR 8/6, forams. Assilina, abundent recrystallized, Sand is medium to coarse grained rounded to Subrounded, poorly Sorted quartz sand.
	18.00				18			18.00
18.00								LIMESTONE, Sandy, pale orange 10 YR 8/2 to pale yellowish orange 10 YR 8/6, forams, Assilina abundent. Sand is medium to coarse grained rounded to Subrounded quartz.
					19		2m	
	20.00				20			20.00
20.00								

ALLUVIUM

LAKHRA FORMATION

form 38

#727

DRILL-HOLE NO [illegible]

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
							0.50	LIMESTONE same as above. 20.50
					21			CLAYSTONE, very pale orange 10YR 8/2 (dry) to medium light grey N/6 (wet), sandy, foraminiferal Assilina. 22.00
22.00	22.00				22			CLAYSTONE, pale yellowish orange 10 YR 8/6. Sandy, forams, Assilina present. Sand is medium grained, few coarse, rounded quartz sand. 24.00
					23			
24.00	24.00				24			CLAYSTONE same as above, sandy, foraminiferal Assilina few, sand medium to coarse grained, few coarse grained, rounded quartz. Lower 1/2 meter claystone, moderate red 5R 4/6 to moderate reddish brown 10R 4/6. 26.00
					25			
26.00	26.00				26			CLAYSTONE same as above 28.00
					27			
28.00	28.00				28		0.52	CLAYSTONE same as above 28.52
	28.52						0.78	CORE LOSS IN SAND STONE. 29.30
	(1.53)	0.75	49%		29		0.20	SANDSTONE dark yellowish orange 10YR 6/6, Fine grained, rounded, few subrounded, well sorted, ferrugenous, Fe-mg mineral grains about 2%, Silica 95/98%. 29.50
							0.37	CLAYSTONE & SANDSTONE interbedded, Claystone, dark yellowish orange 10YR 6/6 Sandstone pale brown 5YR 5/2 claystone 0.5-0.75cms thick layer and Sand stone 1-3cms thick layer with 6cms thick sand stone bed in the middle. Sand stone is fine grained (FU-ML) pale brown, 5YR 5/2 ferrugenous. Subrounded well sorted. 29.87
							0.08	SANDSTONE moderate yellowish brown 10YR 5/4 towards contact moderate reddish brown 10R 4/6 v. fine to fine grained subrounded few subangular moderately sorted. Silty to v. fine sand matrix about 25%. 29.95
30.05	30.05				30		0.10	CLAYSTONE, Varigated, moderate reddish brown 5YR 5/2 with thin Sandy layers. 30.05

LAKHRA FORMATION

RUN

BARA FORMATION

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BARA FORMATION

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30.05								30.05
30.05	(3.00)	0.43	14.3%		31		2.57	CORE LOSS. 32.62
					32		0.07	SANDSTONE light brown 5YR 5/6 to moderate reddish brown 10R 4/6, medium grained subangular to subrounded, moderately sorted, thin laminae (2-5mm). Fe-mg minerals about 2-4% ferrugenous, oxidized quartz about 90%. 32.69
33.05					33		0.36	CLAYSTONE dark yellowish orange 10YR 6/6 to greyish orange 10YR 7/4, soft, thin 1-3mm sand laminae, sand fine grained, rounded, well sorted, becomes ferrugenous towards base. 33.057
33.05	(3.00)	0.08	2.6%		34		2.92	CORE LOSS probably sandstone. 35.97
					35		0.08	SANDSTONE, dark yellowish orange 10YR 6/6, fine grained, mostly rounded, moderately sorted, silty. Silt about 25% quartz about 70-72% Fe-mg minerals 2-3% 36.05
36.05					36		0.52	CLAYSTONE dark yellowish orange 10YR 6/6, dark reddish brown 10R 3/4, thin bands of red ochre 2-3mm thick present in the middle. 36.57
36.05	(3.05)		21.9%		37		0.15	SANDSTONE silty dark greenish grey 5GY 4/1, medium dark grey N/4, fine to medium grained, subangular to subrounded, silty, forams complete and broken present, slightly calcareous. green, Fe-mg mineral grains present. 36.72
					38		2.38	CORE LOSS IN SANDSTONE
39.10					39			39.10
39.10	(3.05)	1.177	58%		40		1.28	CORE LOSS IN SANDSTONE 40.38

→ contd.

DRILL-HOLE NO BAK-2

BARA FORMATION

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								41.38
					41		1.05	SANDSTONE dark greenish grey, 5GY 4/1, fine to medium grained subrounded poorly sorted. medium hard black and dark green Fe-mg minerals present, silty. forams abundant, Assilina, mostly broken few well preserved. calcareous 41.43.
			58%				0.72	CLAYSTONE & SANDSTONE interlayered in 1-2 mm laminae, clay, sand ratio 90:10 carby specks, rare pyrite patches 1-2 mm, rare glauconite, pallets, observed in sand laminae, Few Fe-mg mineral grains. 1-5 mm band of siderite at base. 42.15
	42.15				42		0.42	CLAYSTONE with minor thin <1 mm sand & silt laminae, and 0.5 cms to 1 cms thick siderite bands 4 in Nos. Pyrite in small patches 0.2 to 0.7 cms across abundent. carbonaceous specks 1-3 mm. 42.57
42.15								
		(3.05)	1.25		43			
					44		1.80	CORE LOSS IN SANDSTONE 44.37
							0.25	SANDSTONE with 1-0.5 cms thick (minor) Clay bands and 1 cm thick Siderite lens. light olive grey 5Y 6/1 to medium dark grey N/4, Sand Stone is fine grained about 15% medium grained. moderately sorted. Fe-mg mineral ~~grains~~ grains 2-3 % 44.62
					45		0.58	CLAYSTONE with 0.2 to 0.7 cms thick sand stone bands few dark grey N/3, medium hard, medium compact. 4-5 siderite bands mostly in lower part. Sand is fine grained, subrounded, moderately sorted. Fe-mg minerals about 5% rare glauconite minerals. 45.20
	45.20							
		(3.05)	1.89	61.9%	46		1.89	CLAYSTONE with sand stone laminae 1-2 mm, medium dark grey N/4 to dark grey N/3, Sand Very fine to fine grained, subrounded sorted sand. Coaly flakes and thin laminae 0.5 mm along bedding planes. slightly pyritic ; small patches. 47.89
					47			
	48.25				48		1.16	CORE LOSS 48.25
		(3.00)	0.32	10%	49		2.68	CORE LOSS
					50			← Contd.

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
			[illegible]6%					CORE LOSS
					51			CLAYSTONE with minor sand stone laminae 50.93
	51.25						0.32	CLAYS... same as above. 51.25
51.25					52		0.81	CLAYSTONE with occasional thin 1-3 mm layers of sand stone. 3 siderite lenses up to 1 cms thick.
	(3.05)	0.81	26.5%		53		2.24	CORE LOSS
	54.30				54			54.30
54.30	(2.05)		41.40%		55		1.20	CORE LOSS 55.50
	56.35				56		0.85	CLAYSTONE with thin 1-3mm sand stone laminae. burrows few, filled with clean quartz sand. 56.35
					57		2.4	CORE LOSS
	(3.05)	0.65	21.3%		58			58.75
							0.25	CLAYSTONE medium dark grey N/4 to dark grey N/3 with minor sand laminae same as above. 59.00
	59.40				59		0.40	SANDSTONE very fine grained, silty with minor silty clay band <0.5 cms sand stone, medium light grey N/6 claystone dark grey N/6. Sand stone very fine grained subrounded silty moderately sorted. two siderite Nod. or hard sand stone bands up to 3 cms thick. Small carby specks. 59.40
	59.58				60		0.18	SANDSTONE with minor silty clay laminae. medium light grey N/6 to medium dark grey N/4. V. fine grained sand subrounded, moderately sorted, medium hard, compact. Thin carbonaceous specks & coatings on bedding planes few. 59.58

Claystone (0.18) ...ed dark ...rey, carb. ...pecks present, ...ghtly ...calcareous and in the ...pper part

Contd.

DRILL-HOLE NO UAK-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(2.15) 61.55	2.05	95.3%		61			upper part more pyritic than lower part. Lower part more sideritic. Siderite 2-3 cms thick grades down into sand stone (fining upward sequence). 61.45
							0.10	CORELOSS (In sst) 61.55
61.55	(0.90) 62.45	0.65	72%				0.65	SANDSTONE same as above 62.20
							0.25	CORE LOSS. 62.45
	(3.05) 65.50	1.0	32.7%		63 64 65		2.05	CORE LOSS IN SANDSTONE 64.50
							0.20	SANDSTONE same as above 64.70
							0.80	CLAYSTONE medium dark grey N/4 to dark grey N/3 carby specks/patches, slightly sideritic in upper part becomes sandy in lower part, lower 20 cms is highly sandy. 65.50
65.50	(3.05) 68.55	0.70	22.9%		66 67 68		0.70	SANDSTONE medium dark grey N/4, medium grained, few fine grained, subangular to subrounded. poorly sorted. friable. quartz >95% rare Fe-mg mineral grains 66.20
							2.35	CORE LOSS 68.55
68.55	(1.00) 69.55	NIL	0%		69		1.00	CORE LOSS. 69.55
					70		2.68	CORE LOSS contd.

contd →

Form 1b

-732-

DRILL-HOLE NO YAK-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.05)	0.37	12%		71		2.68	CORE LOSS IN SANDSTONE
	72.60				72		0.37	72.23 SANDSTONE light grey N/7 to medium light grey N/6 medium to coarse grained. subrounded. poorly sorted. friable quartz >95%, Fe-mg mineral grains & occasional coal frags up to 5% 72.60
72.60	(3.05)	0.90	29.5%		73		2.15	CORE LOSS
					74			SAND 74.75
					75		0.30	SANDSTONE with carbonaceous specks & laminae <0.5mm along bedding planes. dark grey N/3 fine to medium grained, subrounded poorly sorted 75.05
	75.65						0.60	SANDSTONE medium light grey N/6, fine to medium grained, Lr. part gritty, with Sideritic nodules. v. heavy sand subrounded. poorly sorted. Coaly & Carby specks. 75.65
75.65	(3.05)		0%		76			CORE LOSS
					77		3.05	
	78.70				78			78.70
					79		0.45	CORE LOSS 78.70
	(1.60)	1.15	71.8				1.15	CLAYSTONE with minor sandy patches and thin laminae dark grey N3, medium hard compact, coaly partings, looks carbonaceous shale, sandy patches are of fine sandstone, sub-rounded Sideritic, compressional slickensides in clay-stone, coaly specks and thin laminaes, rare Pyritic grains and patches, Lower part more sandy
					80			Contd

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	80.30		71.3%		80		1.15	80.30
80.30								SANDSTONE Light grey N7 to medium Light grey N6, medium to coarse grained, mostly medium grained, Sub-rounded, sorted, soft, loose, friable, coaly specks, rare, ferro-magnesian grains rare Silica above 95% 80.85
	(3.05)	0.55	18%		81			
					82		2.50	CORE LOSS IN SANDSTONE
	83.35				83			83.35
83.35	(1.40)	NIL	0%		84		1.40	CORE LOSS IN SANDSTONE
	84.75							84.75
84.75							0.12	SANDSTONE Light grey N7, fine to medium grained, Sub-rounded sorted very hard, well compact silty, coaly speak rare, Slightly Calcareous with high Specific gravity shows presence of heavy minerals. 84.87
	(3.05)	0.12	3.9%		85			
					86		2.93	CORE LOSS IN SANDSTONE
	87.80				87			87.80
	(3.05)	NIL	0%		88			CORE LOSS IN SANDSTONE
					89			
					90			→ contd

Form

-234-

DRILL HOLE NO DAR-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	90.85		0%		90			CORE LOSS 90.85
90.85	(3.00)	0.18	6%		91		2.82	CORE LOSS. 93.67
	93.85				92			SANDSTONE. Light grey N7 to medium fine grained, sub-rounded medium sorted, very hard compact, silty, slightly calcareous, coaly specks rare, ferro magnesium grains present, high specific gravity. * Please put basal contacts ie: R.T. base sharp, base irregular, base grades. 93.85 ↗
93.85	(3.05)	0.0	0%		93		0.18	
	96.90				94			
					95		3.05	CORE LOSS IN SANDSTONE
					96			96.90
96.90	(3.05)	0.45	14.7%		97			CORE LOSS IN SANDSTONE 99.50.
					98		2.60	SANDSTONE light grey N/7, medium grained, subrounded sorted, Very hard, well compact, Calcareous, Coaly specks, sideritic looks like quartzitic sandstone. 99.71
	99.95				99		0.21	CLAYSTONE dark grey N/3. medium hard, medium hard medium compact. sand and silty, coaly partings present. Pyritic, Burrowed?
					100		0.24	Sideritec nodules/lenses in upper part. 99.95

Form 36

-735-

DRILL-HOLE NO UMK-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
99.95					100			
	(3.05)	1.80	59%		101		1.80	CLAYSTONE medium dark grey N/4 to dark grey N/3 medium hard, compact. Sandy patches, and laminae in lower part. carbonaceous, coaly partings and patches, pyritic. few very small 0.5 x 1cms siderite nodules/lenses. Silty at places. Sand is fine grained subrounded, sorted. quartz >95%
								101.75
					102		1.25	CORE LOSS.
	103.80							103.00
103.00					103			SANDSTONE with minor CLAYSTONE laminae 0.1-0.5cms thick, Sand clay ratio 65:35 Sandstone is medium light grey N/7 to medium dark grey N/4 Very fine to fine grained, subrounded, with Silty matrix, poorly sorted. Claystone is medium dark grey. Coaly partings and patches present at places.
	(3.05)	1.80	59%		104		1.80	
								104.80
					105		1.25	CORE LOSS IN SANDSTONE.
	106.05				106			106.05
106.05								
	(3.05)		16.3%		107		2.55	CORE LOSS IN SANDSTONE 108.60.
								SILTSTONE with minor thin <1mm sand laminae medium light grey N/6 to medium grey N/5 hard compact. sand is very fine to fine, carby and coaly specks rarely present! Siderite nodules. Grades down to Claystone 108.82
					108		0.22	CLAYSTONE medium dark grey N/4; to medium grey N/5 medium hard, medium compact, sandy patches, coaly patches; and laminae observed! 1cms thick siderite nodule present
	109.10				109		0.28	109.10
109.10							0.12	SILTSTONE medium grey N/5 hard & very compact lower part is very hard & sandy with coaly partings & streaks.
			3.9%					109.22
					110			CORE LOSS
								contd
contd					111			

Form 6b

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DRILL-HOLE NO UBK-2

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.05)	0.12			110			
					111		1.93	CORE LOSS IN SANDSTONE
112.15					112			112.15
112.15	(3.05)	0.61	20%				0.61	SANDSTONE SILTY Light grey N/7 to medium dark grey N/4 very fine to fine. subrounded sorted, medium hard, medium compact Burrowed, filled with coarse sand and Pyrite Coaly patches also seen. Siderite nodules middle part is clayey. while lower part is more sandy and more coaly part- ings and laminal present in lower part one 2.5cm siderite nodule present. 112.76
					113			
					114		2.44	CORE LOSS IN SANDSTONE
					115			115.20
115.20							0.12	SANDSTONE yellowish grey 5Y 7/2 medium grained, sub-rounded poorly sorted medium hard, medium compact Fe.mg mineral grains present quartz about- 95% 115.32
			3.9%		116			
					117			CORE LOSS
					118			118.25
118.25							0.23	SANDSTONE yellowish grey 5Y 7/2 medium grained, Sub-rounded, Poorly Sorted very hard and compact Coal Partings observed quartz > 85% 118.48
	(1.75)	0.23	13.1%		119			CORE LOSS IN SANDSTONE
	120.00				120			1.52

DRILL-HOLE NO. OAK-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					120			120.0
	(1.30)	NIL	0%		121		1.30	CORE LOSS IN SANDSTONE
121.30								121.30
121.30	(3.05)	0.58	19%		122		0.58	SANDSTONE Light grey N7 to medium light grey N6, fine grained sub-rounded sorted, soft, loose, friable rare ferra magnesium grains, carby partings Present, Silica Percentage is above 95%
					123			CORE LOSS IN SANDSTONE
124.35					124			124.35
124.35							0.46	SANDSTONE Same as above
	(3.05)	0.46	15%		125			
					126		2.59	CORE LOSS IN SANDSTONE
127.40					127			127.40
127.40	(1.10)	NIL	0%		128		1.10	CORE LOSS IN SANDSTONE
128.50								128.50
128.50	(1.90)	0.50	26.5%		129		1.40	CORE LOSS IN SANDSTONE 129.90
					130			SANDSTONE Light grey N7, very fine to fine grained sub-rounded sorted, soft loose, friable rare ferro magnesium grains, carby Specks Present, more carby in lower Part. Silica Percentage is about 75%

Contd

Form 3b (14)

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DRILL-HOLE NO UAK-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					130			CARBONACEOUS SHALE- Dark grey N3, to greyish black N2, medium, hard, medium compact coaly and carby specks, flakes present, rare Pyritic grains, Sandy specks present. 130.40
130.40	130.40							
	(3.05)	0.40	13.1%		131		0.40	SANDSTONE Light grey N7, fine grained, sub-rounded, Sorted 50% Loose friable, ferromagnesium grained rare coaly Seeks and partings rare silica above 95% 130.80
					132		2.65	CORE LOSS IN SANDSTONE
	133.45				133			133.45
133.45								
	(2.70)	1.60	59%		134		1.10	CORE LOSS IN SANDSTONE 134.55
					135		0.54	SANDSTONE Silty. Medium light grey N6 to medium grey N5, very fine to fine grained silty matrix, medium hard compact, coaly and carby patches pyritic sub-rounded micaceous. 135.09
							1.06	CLAYSTONE SILTY. with alternate layers and laminas of sandstone medium dark grey N4 to dark grey N3, medium hard compact Sandy laminaes and layers present, coaly and carby specks and patches present looks like flaser bedding, lower part has very hard Sandstone layers, Pyritic Sideritic in upper part. 136.15
	136.15				136			
136.15								
	(3.10)	3.10	100%		137		1.73	SANDSTONE Medium grey N5 to medium dark grey N4, fine to medium grained, sub-angular to sub-rounded hard compact at places looks like quartzitic sandstone, clayey and silty laminaes and bands, coaly and carby at places, at places looks like flaser beddings. 137.88
					138		0.92	CLAYSTONE Silty. Dark grey N3 to greyish black N2, medium hard compact alternate thin laminaes of coal and siltstone and claystone, towards bottom gradually Coaly Sands increases and lower part turns to carby shale to highly carby shale. 138.80
					139		0.45	Brownish black 5YR 2/1, to greyish black N2, blocky, Pyritic laminaes. UAK-2-1 139.25
	139.25						0.30	139.55
			2.4%		140		0.60	Claystone – Medium dark gray N5 to medium gray N4 medium hard, med compact, silty coaly partings, carby patches present.

CONTD –

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Contd. from prev page
	140.15				140			140.15
140.15	(2.40)	2.40	100%		141		2.40	SILTSTONE: Medium grey N/5, hard compact, sandy, upper 30 cms is less sandy burrowed, burrows filled with medium grained quartz sand one burrow filled with Pyrite. Lower part becomes more sandy while opaque rounded grains of unidentified mineral grains present throughout the unit.
					142			142.55
	142.55							142.95
142.55	(3.05)	3.05	100%		143		0.40	SILTSTONE Same as above
							1.49	SANDSTONE Medium dark grey N/4 to dark grey N/3 alternate bands from 0.1mm to 2cms thick sand and 0.1 to 2mm silty clay bands. Sand and silty clay ratio 75:25
					144			SANDSTONE. Very fine to fine grained, sub-rounded, Fe. mg mineral grains rare moderately sorted carby shale patches present coaly specks. Middle part about 10cm thick band with 2 to 5mm yellowish Pre vitrenite band lower 12 cms with coal laminae and grades down into carby shale with vitrinite/Previtrinite bands
					145		1.13	COAL SEAM greyish black N/2 to black N/1, blocky, nonbanded, pyritic, resinous 0.90 to lignite, lower 23 cms slightly shaly. (144.44) UAK-2/2 Bag 1, UAK-2-2/1 From 144.44 to 144.78 (0.34) coal Bag 2, UAK 2-2/2 From 144.78 to 145.10 (0.32) coal Bag 3, UAK-2-2/3 From 145.10 to 145.34 (0.24) coal Bag 4, UAK-2-2/4 From 145.34 to 145.57 (0.23) Slightly shaly greyish black N/2, blocky, slightly pyritic, resinous. 145.57
	145.60							CARBONACEOUS SHALE, Dark grey N/3, coaly specks. 145.60
145.60	(3.05)	NIL	0%		146			
					147		3.05	CORE LOSS IN SANDSTONE
					148			
	148.65							148.65
148.65			20%		149		0.51	SANDSTONE very light grey N/8 to light grey N/7, medium grained, sub-rounded moderately sorted rare carby fragment very fine <0.25 mm. sand is about 98% few Fe. mg mineral grains observed. 149.16
								CORE LOSS IN SANDSTONE
					150			CONTD.

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DRILL HOLE NO OAK-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								Contd. from previous page.
	(3.05)	0.51			150			
					151		2.54	CORE LOSS IN SANDSTONE
	151.70							151.70
151.70								SANDSTONE Same above quartz >95% rare Fe-mg mineral grains. Carby fragments <0.25mm friable, loose
					152		0.74	152.44
	(3.05)	0.74	23%		153		2.31	CORE LOSS IN SANDSTONE
					154			
	154.75							154.75
154.75								SANDSTONE Medium light grey N/6, fine grained sub-rounded moderately sorted rare carby frags <0.25mm and Fe-Mg minerals. quartz >95% friable/loose.
					155		0.38	
	(3.00)	0.38	13%		156		2.62	CORE LOSS
					157			
	157.75							157.75
	(3.00)	NIL	0%		158			
					159		3.0	CORE LOSS
					160			CONTD.

Form 3..

-741-

DRILL-HOLE NO UAK-?

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								CONTD. from previous page.
	160.75				160			CORE LOSS 160.75
160.75	163.80 (3.05)	0.27	9%		161		0.27	SANDSTONE same as above 161.02
					162, 163		2.78	CORE LOSS IN SANDSTONE 163.80
163.80	166.85 (3.05)	2.55	84%		164		0.50	CORE LOSS IN SANDSTONE 164.30
							0.42	SANDSTONE light olive grey 5Y 5/2 medium grained sub-rounded, moderately sorted very hard, compact white opaque small grains patches up to 1mm milky quartz/feldspar rare black coloured mineral grains quartz >95%. 164.72
					165		0.34	SANDSTONE. Very light grey N/6 fine grained, sub-rounded, silty, silty patches calcareous. few black and green coloured ferromagnesium mineral grains lightly calcitic 165.06
							0.35	SANDSTONE medium dark grey N/4 fine grained, subrounded well sorted. soft (not hard) carby specks and slightly pyritic few small grains patches. 165.41
							0.08	DIRTY COAL Brownish black 5YR 2/1 laminated, vitritic previtrain lamina <1mm. resinous slightly, slightly sandy 165.49
					166		0.52	SILTSTONE clayey very fine grained sand stone interlaminated in 1-3 mm band coal laminae and coating along bedding planes in the upper part. 166.01
							0.84	CLAY STONE SILTY Medium dark grey N/4 to dark grey N/3, hard compact carby towards lower part. 166.85
166.85	169.90 (3.05)	3.05	100%		167, 168		1.35	CLAYSTONE dark grey N/3, 2-3 mm siderite nodule present. becomes pyritic towards base. 168.20
					169		1.21	CLAYSTONE greyish black N/2 slightly sandy / thin <1mm sand laminae, pyritized and carbonized plant debris. Coal/carby laminae <1mm & carby coating along bedding planes. lower part becomes more sandy, & grades down in sand stone lower 35 cms Sand stone, qtz >95% Fe-mg minerals 5%, lower part is laminated with <1mm medium dark grey bands. Lower two third carby with 1-2mm coal laminae. 169.41
							0.49	SANDSTONE light grey N/7, to medium grey N/5 laminae of CLAY <1mm. SAND fine grained, subrounded, moderately sorted. medium hard, medium compact, 3cms thick siderite nodule at top. carby specks/patches. rare Fe-mg mineral grains. 169.90
169.90					170			SANDSTONE same as above laminated, probably ripple cross beds. (contd)

(CONTD)

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					170			
	(3.00)	1.25	41.6%				1.25	171.15
					171			
							1.75	CORE LOSS. IN SANDSTONE
	172.90				172			172.90
172.90								SANDSTONE Light grey N/7 to medium Light grey N/6, medium grained few about 10% coarse grained, Sub-rounded to rounded Sorted, Friable/Loose. fines downwards quartz >95% rare Fe-mg mineral grains.
					173		0.65	173.55
	(3.05)	0.65	21.3%		174			
							2.40	CORE LOSS IN SANDSTONE
	175.95				175			175.95
175.95					176			
	(1.80)	NIL	0%				1.80	CORE LOSS IN SAND STONE 177.75
	177.75				177			SILTY CLAY STONE Medium dark grey N/4 to dark grey N/3 medium hard, compact Sandy layer 0.1 to 0.3 cms and patches upper 12 cms. highly sandy, middle part is clay sand ratio 80:20 sand percentage increases towards base sand, fine grained coaly fragments and specks 0.1 mm to 0.5 cm and Patches of carbonized plant debry.
177.75								
	(3.10)	2.92	94%		178		1.18	178.93
					179		1.74	SANDSTONE Light grey N/7, fine grained Sub-rounded, Sorted medium hard, medium compact, thin layers and laminae 0.1 cms to 3 cm of silty clay present coaly flakes and specks at places Pyritic Sand contains Fe-mg mineral grains black and rare green mineral. Ripple cross bedded, one siderite
					180			

-743-

DRILL-HOLE NO DAE-2

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					180			Lens up to 2ms thick few up to 7cms nodules highly sandy in lower part basal 5cms is sandy silty clay band basal contact sharp. 180.67
	180.85						0.18	CORE LOSS IN SANDSTONE 180.85
180.85					181		0.48	SANDSTONE Light grey N/7, fine sorted friable/loose. Tr mg <0.25 mm carby/coaly frags. quartz >98% Fe+Fe-mg mineral grains 1-2%
	(3.00)	0.48	16%		182		2.52	CORE LOSS IN SANDSTONE
	183.85				183			183.85
183.85					184		1.20	CORE LOSS IN SANDSTONE
	(1.20)	NIL	0%					185.05
	185.05				185		0.46	SANDSTONE Light grey N/7, fine grained about 5% medium size grains, sub-rounded, moderately, sorted, friable/loose quartz >98% - about 2% Fe-mg mineral grains and carby specks. 185.51
					186			
	(3.05)	0.48	15%		187		2.59	CORE LOSS IN SANDSTONE
	188.10				188			188.10
	(2.65)	0.43	16%		189		2.22	CORE LOSS IN SANDSTONE
					190			CONTD.

Form 3

-744-

DRILL-HOLE NO WAH-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								190.32
			16.2%		190		0.12	SANDSTONE very light grey N/8 to yellowish grey 5Y 8/1 coare grained, few medium grained, subrounded, poorly sorted few ferro-magnesium mineral grains, rare carby and coaly specks very hard, quartz > 95% 190.44
	190.75						0.31	CLAYSTONE SILTY, medium dark grey, N/4 to dark grey N/3 medium hard, medium compact. Sandy, coaly and carby specks, present, slightly pyritic, sideritic looks burrowed
190.75					191			190.75
	(1.40)	NIL	0%				1.40	CORE LOSS IN SANDSTONE.
	192.15				192			192.15
192.15							0.55	SANDSTONE light grey N/7, fine grained about 20% medium grained, subrounded, moderately sorted quartz 95-98% occasional Fe-mg mineral grams; few carby frags. 192.70
	(2.0)	0.55	27.5%		193		1.45	CORE LOSS IN SANDSTONE
	194.15				194			194.15
194.15							0.38	SANDSTONE same as above. 194.53
	(3.05)	0.38	12.5%		195		2.67	CORE LOSS IN SANDSTONE
	197.20				196			
					197			197.20
197.20							0.48	SANDSTONE same as above 197.68
	(3.0)	0.48	16%		198		2.52	CORE LOSS IN SANDSTONE
					199			
					200			CONT'D.

DRILL-HOLE NO UAK-2

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	200.20		16%		200			CORE LOSS IN SANDSTONE 200.20
200.20							0.65	CORE LOSS IN SANDSTONE 200.85
					201		0.20	Sandstone - Light gray N7, fine grained, Subrounded, moderately sorted, quartz above 95%, rare ferromagnesium grains. 201.05
							0.33	Claystone - Medium bluish gray 5B 5/1, medium gray N5, medium hard, medium compact, Carby and Coaly specks, small pyritic patches. 201.38
							0.10	Carby shale - Grayish black N2, medium hard, medium compact, Coaly laminae (Pre-vitrinite) Pyritic 201.48
	(3.05)	2.40	78.6%				0.58	Claystone - Dark gray N3, medium hard, medium compact, Coaly specks abundant, slightly pyritic (small patches), siderite nodule 202.06
					202		0.83	COAL SEAM - Brownish black 5YR 2/1, blocky, pyritic, few small patches, resinous. UAK-2-3 202.89
	203.25				203		0.36	Claystone - Medium gray N5, medium hard, medium compact, rooted / partly carbonised 203.25
203.25	(1.50)	NIL	0%		204		1.50	CORE LOSS IN Claystone
	204.75							204.75
					205			END.
					206			
					207			
					208			
					209			
					210			

Form 3b

UAK-3 -146-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
00	02						2.00	ALLUVIUM, SILTY CLAY, Yellowish gray 5Y 7/2, slightly micaceous
02	04						2.00	ALLUVIUM, SILTY CLAY, Yellowish gray 5Y 7/2, slightly micaceous
04	06	NON CORING					2.00	ALLUVIUM, SILTY CLAY, Same as above.
06	08						2.00	ALLUVIUM, SILTY CLAY, Same as above.
08	10						2.00	ALLUVIUM, SANDY CLAY, Yellowish gray 5Y 7/2, Sand fine grained, Subangular to subrounded. Dominantely quartz grains. FeMg mineral grains about 5%. Slightly micaceous

Form 3c

-747-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								10m
10	12						2.00	ALLUVIUM, SILTY SAND, Yellowish gray. 5Y 7/2. Dominantely fine grained. Few medium size grains, mostly subrounded. Dominantely quartz grains. About 10% Fe Mg mineral grains. Few flakes of muscovite. 12
12	14						2.00	ALLUVIUM, SILTY SAND, Yellowish gray. 5Y 7/2, fine grained, dominantly subrounded, mostly quartz grains. About 10% green to black FeMg mineral grains. Few muscovite, biotite flakes 14
14	16	NON CORING					2.00	ALLUVIUM, SILTY SAND, Same as above. 16
16	18						2.00	ALLUVIUM, SILTY SAND, Same as above. 18
18	20						2.00	ALLUVIUM, SAND. Greenish gray, 5 GY 6/1, Comparatively clean. Micaceous. Contains flakes of muscovite and green and brown biotite. Fine grained subangular to subrounded. Dominantely quartz grains 15 - 20% green and black Fe Mg mineral grains. 20

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20	22						2.00	ALLUVIUM, SAND, Micaceous, fine grained, same as above. 22
22	24						2.00	ALLUVIUM, SAND, Micaceous. Fine grained, same as above. 24
24	26	NON CORING					2.00	ALLUVIUM, SAND, Light olive gray, 5Y 6/1. Slightly micaceous Fine grained. Subangular to subrounded Dominantely quartz grains. 15 – 20% FeMg mineral grains. 26
26	28						2.00	ALLUVIUM, SAND, Same as above. 28
28	30						2.00	ALLUVIUM, SAND, Same as above. 30

Form 1b

-759-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30	32						2.00	ALLUVIUM, SAND. Light olive gray, 5Y 6/1, Same as above. 32
32	34						2.00	ALLUVIUM, SAND. Light olive gray 5Y 6/1, Fine grained. Few coarse grains. Subangular to subrounded Larger grains subrounded. Dominantely quartz grains. 15 - 20% green and black Fe Mg mineral grains. Few muscovite and biotite flakes. 34
34	36	NON CORING					2.00	ALLUVIUM, SAND. Light olive gray. 5Y 6/1, Fine grained, Subangular to subrounded. Dominantely quartz grains. About 20% Fe Mg mineral grains. Flakes of muscovite and biotite. 36
36	38						2.00	ALLUVIUM, SAND. Same as above. 38
38	40						2.00	ALLUVIUM, SAND. Light gray, N-7, Fine grained. Few coarser grains also present Subangular to subrounded Coarser grains subrounded to rounded. Dominantely quartz grains, about 25% green and black Fe Mg mineral grains Few muscovite, biotite flakes, Comparatively clean sand. 40

-750-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								40 m
40	42						2.00	ALLUVIUM, SAND, Same as above. 42
42	44						2.00	ALLUVIUM, SAND, Same as above, 44
44	46	NON CORING					2.00	ALLUVIUM, SAND, Same as above, 46
46	48						2.00	ALLUVIUM, SAND, Fe Mg mineral grains 15 - 20 %, otherwise same as above. 48
48	50						2.00	ALLUVIUM, SAND, Medium light gray, N-6, dominantely fine grained. Few coarse grains. Finer grains subangular Larger grains subrounded to rounded. Dominatly quartz grains. Fe Mg mineral grains about 20%. Quartz grains transparent to translucent. less micaceous. 50

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
50	52						2.00	ALLUVIUM, SAND, Same as above, 52
52	54						2.00	ALLUVIUM, SAND, Light olive gray, 5Y 6/1, Fine grained, Few larger grains Subangular to subrounded. Few larger grains rounded. Dominantely quartz grains. 15 - 20% Fe Mg mineral grains. Few lithic fragments. Muscovite rare. 54
54	56	NO CORING					2.00	ALLUVIUM, SAND, Same as above. 56
56	58						2.00	ALLUVIUM, SAND, Light olive gray 5Y 6/1. Fine grained. Few coarser grains. Subangular to subrounded coarser grains are subrounded to rounded 10 - 15% Fe Mg mineral grains. Mica flakes rare. Few lithic fragments. Sand is slightly muddy Few transported forams, mostly unidentifiable Poorly sorted. 58
58	60						2.00	ALLUVIUM, SAND, Light olive gray 5Y 6/1. Fine grained. Contains few coarser grains. Subangular to subrounded Quartz grains dominant. 10 - 15% Fe Mg mineral grains. Contains subangular to angular coarser grains of lithic fragments. Mica flakes rare. Poorly sorted. Sand is muddy. 60

Form 36

-752-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								60
60	62	NON-CORING →					2.00	ALLUVIUM, SAND, Same as above, 62
62	64						2.00	SANDY SILTY SHALE, Medium dark gray, N-4, sticky, Contains fine grains of quartz and Fe Mg minerals. Slightly micaceous. 64
64	65						1.00	SILTY SHALE, Same as above. 65
65	(1.30) 66.30	0.35	26.93				0.95	CORE LOSS 65.95
							0.35	SHALE, Grayish black N/2 to dark gray N/3. Upper half sticky contains sand lenses. Lower half with very fine sand laminations and few gray hard bands of sideritic material. Few glauconite grains in the upper half. 66.30
66.30	(3.0) 69.30	0.33	11.0				0.33	SHALE, Grayish black, N/2 to dark gray N/3, lenses and thin lamination of very fine to fine grained quartz sand-lenses also contain dark coloured unidentifiable probably Fe Mg mineral grains. 66.63
							2.67	CORE LOSS 69.30
69.30			100				2.60	CORE LOSS 71.90

BARA FM. → ALLUVIUM

Form 3b

-753-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								71.90
	(3.0)		13.34					SHALE, Grayish black N/2 to dark gray N/3, with lenses of fine sand and thin laminations of very fine sand. Contains few patches of very fine grained pyrite in the lower half. Contains unidentifiable fossil fragments. Slickensided at one place. Few lenses of light brown, hard and heavy material. Shale at places appears calcareous
72.30		0.40					0.40	72.30
72.30	(3.0)	1.45	48.34				0.22	SHALE, Grayish black N/2, Contains scattered fossil fragments and few scattered glauconite grains and few lenses filled with quartz sand and glauconite grains
							0.77	72.52
								MUDSTONE SANDY, Greenish black 5GY 2/1, Sand grains fine to very coarse, lower portion more sandy, Subangular to subrounded. Larger grains subrounded to rounded. Highly fossiliferous. Fossil fragments scattered throughout the rock. Glauconitic. Hard, grades into muddy Sandstone
								73.29
							0.46	SANDSTONE MUDDY, Dark greenish gray, 5GY 4/1, Fine to medium grained. Coarse grains rare. Subangular to subrounded, moderately sorted. Dominantly quartz grains. Few glauconite grains. Fossiliferous near the top. Lower part carbonaceous.
								73.75
75.30							1.55	CORE LOSS, 75.30
	(2.65)	1.60	60.38				1.05	CORE LOSS,
								76.35
							1.60	SHALE, Brownish gray 5 YR 4/1, to dark gray N/3. Slightly silty with thin laminations of very fine quartz sand and lenses of fine sand. Thin film of carbonaceous matter at few places. Carby matter replaced by very fine grained pyrite at few places. Silty Shale grades into shale in the lower half with no sand laminations and only few lenses of very fine sand and few thin films of carbonaceous matter.
77.95								77.95
	(2.0)	1.90	95				1.02	SHALE, Dark gray N/3 to brownish gray 5 YR 4/1, Few thin laminations of very fine sand, few lenses of fine sand sparsely pyritic. One siderite nodule near top. Sand laminations decreasing downward.
								78.97
							0.53	SANDSTONE MUDDY, Olive gray 5Y 4/1, Fine grained with few coarse grains Subangular to subrounded. Sparsely glauconitic. Pyritic. Few fragments of carby material, rarely Oxidified. Sandstone hard and compact at places. Grades into mudstone
								79.50
							0.35	MUDSTONE SILTY, Dark gray, V. sparsely rooted. Pyritic. Few fragments of carby material. Few lenses of V. fine grained quartz and glauconite. Compact
								79.85
79.95							0.10	CORE LOSS 79.95
							0.51	SILTSTONE MUDDY, Medium dark gray, N-4, Contains few lenses of fine quartz grains and fine dark grains and few coarser quartz grains. Few patches of V. fine grained pyrite. Few hard, light brown, siderite nodules. Few fragments of carbonaceous matter.
								80.46

Form 3b

-754-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(1.40) 81.35	1.40	100				0.89	SANDSTONE MUDDY, with Shale laminations in the lower half. Medium dark gray N-4, Fine grained, Few coarse quartz grains. Slightly glauconitic. Few light brown, hard, heavy, siderite nodules. Few fragments and few thin laminations of carby matter, at places coalified. 80.46 81.35
81.35	(1.80) 83.15	0.90	50				0.10	SANDSTONE with SHALE laminations, Medium light gray N-6, Sandstone fine grained. Dominantly quartz grains. Dark grains rare. Hard, Calcareous, Shale contains partly coalified and partly pyritized carbonaceous matter. 81.45
							0.75	SANDSTONE, friable, Olive gray 5Y 4/1, Fine to med. dominantly fine grained, Subangular to subrounded. About 50% quartz grains. Micaceous, Muscovite and green and brown biotite flakes. FeMg mineral grains abundant. Rarely contains carbonaceous matter, partly coalified and pyritized. 82.20 83.10
							0.90	CORE LOSS 83.15
							0.05	SANDSTONE MED. LIGHT GRAY HARD, CALCAREOUS, FINE GRAINED WITH SIDERITIC NODULE 83.15 84.00
83.15	(1.25) 84.40	0.40	32				0.85	CORE LOSS
							0.40	SHALE, Silty, interlaminated with V. fine sand. Med. Gray N/5 Pyritic, Sand laminations upto 2 mm thick, Sand well sorted consists of quartz and FeMg mineral grains. Few bands of light brown, hard, heavy, siderite material. Very thin films of carby matter at few places, partly coalified. 84.40
84.40	(3.05) 87.45	1.00	32.79				1.00	SHALE, SILTY Shale interlaminated with very fine sand Same as above. 85.40
							2.05	CORE LOSS 87.45
87.45	(3.05) 90.50	1.65	54				1.65	SHALE Interlaminated with very fine sand, Medium gray N-5 Sand laminations few mm thick, Sand well sorted. consists of quartz and FeMg mineral grains. Very thin films of coal. Sparsely pyritic. Few siderite nodules Pockets of fine to medium size quartz sand. Thin laminations of carby matter at few places. 89.10
							1.40	CORE LOSS 90.50

Form 3b

-755-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								90.50
90.50	(3.05) 93.55	0.25	8.20				0.15	SHALE SILTY, Medium gray N-5, Few pockets of Sand. Rare fragments of Carby matter. 90.65
							0.10	SANDSTONE, Light olive gray 5Y 6/1. Hard, Compact, Fine to medium grained. Dominantly quartz grains, Dark grains rare. Heavy, One large fragment (about 2 cms) of carbonaceous material, Coalified. 90.75
							2.80	CORE LOSS 93.55
93.55	(3.05) 96.60	0.35	11.40				2.70	CORE LOSS 96.25
							0.35	SHALE SILTY Interlaminated with very fine sand Medium gray N-5. Thin flakes and films of carbonaceous matter at places partly coalified. Few patches of very fine grained pyrite. More sandy near the top. 96.60
96.60	(3.00) 99.60	0.60	20				2.40	CORE LOSS 99.00
							0.4	SANDSTONE, Friable, light gray N-7, Fine grained. 90% quartz grains 10% green and dark grains. Well sorted. Few muscovite and biotite flakes. 99.12
							0.18	SHALE, Medium dark gray N-4. Thin coaly films at places Sparsely pyritic Fragments of Carby material at places 99.30
							0.30	SHALE AND FINE SAND interlaminated, Med. dark gray N-4, and light gray N-7. Sand well sorted Mostly quartz grains Few dark grains. Shale silty, Thin films of carby material at one place. 99.60
99.60							0.80	CORE LOSS 100.40

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								100.40
	(3.00)	2.20	74				0.19	SHALE, Shale and very fine sand interlaminated. Dark gray N-3 and light gray N-7. Sand very fine grained, subangular Dominantly quartz grains. About 10% dark Fe/Mg mineral grains. Few fragments of carby material at places. 100.59
102.60							2.01	SHALE Medium dark gray N-3. Burrowed near top. Burrows filled with fine and medium grained quartz sand. Fragments of carby material sparsely distributed. Lenses and nodules of light brown, hard, heavy, probably siderite material. At places very thin laminations (less than 1mm) of very fine sand. 102.60
102.60	(3.05)	0.90	29.5				0.90	SHALE, Medium dark gray N-4 to dark gray N-3. At places contains laminations (less than 1 mm) of very fine quartz sand. Few light brown, hard, heavy, probably siderite nodules. Carbonaceous near the bottom with wavy (few mm thick) laminations of coal. Carbonaceous matter at places contain pyrite. Few pockets of fine grained quartz sand. 103.50
							2.15	CORE LOSS 105.65
105.65	(3.05)	1.10	36				1.10	SHALE AND VERY FINE SAND Interlaminated, Medium dark gray N-4, and medium light gray N-6. Sand very fine grained, Subangular to angular. Dominantly quartz grains. About 10% dark Fe Mg mineral grains. Few nodules of hard heavy, probably siderite material. Fragments and thin layers (few mm) of Carbonaceous material near the bottom. Carbonaceous matter coalified at places and sparsely pyritized. 106.75
							1.95	CORE LOSS 108.70
108.70	(3.00)	NIL					3.00	CORE LOSS 111.70
	111.70							

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								111.70
111.70	(3.05) 114.75	0.10	3.28				2.95	CORE LOSS. 114.65
							0.10	SAND AND DIRTY COAL INTERLAMINATED Medium light gray N-7 and dark gray N-3 Sand, fine grained, subangular quartz grains Well sorted. Thin laminations of coal (Coal about 40%) Dirty, Sandy, sparsely pyritic, with few globules of yellowish Orange resin. 114.75
114.75	(3.05) 117.80	NIL					3.05	CORE LOSS 117.80
117.80	(3.00) 120.80	0.17	5.67				2.83	CORE LOSS 120.63
							0.17	SANDSTONE AND DIRTY COAL INTERLAMINATED Medium Light gray N-7 and dark gray N-3, Sand fine grained, subangular quartz grains, well sorted, Thin lamination of dirty sandy coal with yellowish orange globules of resin Sparsely pyritic. Sandstone Hard and compact and without coal laminations near the bottom 120.80

Form 3b

-758-

DRILL-HOLE NO. UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								120.80
120.80	(1.00) 121.80	NIL					1.00	CORE LOSS 121.80
121.80	(1.00) 122.80	NIL					1.00	CORE LOSS 122.80
122.80	(1.05) 123.85	NIL					1.05	CORE LOSS 123.85
123.85	(1.00) 124.85	NIL					1.00	CORE LOSS 124.85
124.85	(2.05) 126.90	1.45	70.73				0.60	CORE LOSS 125.45
							1.45	SHALE, Medium dark gray N-5. Alternate dark and light bands. Few thin bands, along the bedding, of fragments of Carby matter. Carby material contains few patches of very fine grained pyrite. Few coal fragments. Few yellowish orange and yellowish brown resen globules Rarely contains very thin lenses of very fine quartz sand One light brown, hard, heavy nodule, probably siderotic near the bottom. 126.90
126.90	(1.00) 127.90	NIL					1.00	CORE LOSS 127.90
127.90	(1.00) 128.90	NIL					1.00	CORE LOSS 128.9
128.90	(1.05) 129.95	0.40	38.0				0.40	SHALE SILTY Medium gray N-5. Few pockets of fine quartz sand along with few dark grains. Few fragments of carbonaceous material at places. Many hard, heavy, light brown probably siderotic, nodules One and two cms thick sandstone bands at top and bottom respectively. Fine grained, well sorted, dominantly quartz. 129.30
							0.65	CORE LOSS 129.95
129.95	(1.00) 130.95	NIL					1.00	CORE LOSS 130.95

Form 36

-759-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								130.95
130.95	(1.00) 131.95	NIL					1.00	Core Loss 131.95
131.95	(1.05) 133.00	NIL					1.05	Core Loss 133.00
133.00	(1.00) 134.00	NIL					1.00	Core Loss 134.00
134.00	(1.05) 135.05	NIL					1.05	Core Loss 135.05
135.05	(1.00) 136.05	NIL					1.00	Core Loss 136.05
136.05	(3.00) 139.05	NIL					3.00	Core Loss 139.05
139.05							2.10	Core Loss 141.15

Form 3b

-760-

DRILL-HOLE NO VAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	(3.00)							141.15
	142.05	0.90	30.0				0.90	SANDSTONE, Friable, Medium gray N-5. Fine to medium grained. Fine grains subangular, medium grains subrounded. Dominantly quartz grains, About 5% dark grains. Few carbonaceous fragments. Poorly sorted 142.05
142.05	(3.00)	0.97	32.34				0.07	SANDSTONE, Pale yellowish brown, 10 YR 6/2, Hard. Compact, Fine to medium grained. Few coarse grains as well. Subangular to subrounded. Dominantly quartz grains. Less than 5% dark grains. Carbonaceous material sparse. 142.12
							2.03	CORE LOSS 144.15
	145.05						0.90	CARBONACEOUS SHALE Grayish black N-2, More carbonaceous near the top. Impressions of plant material at many places. Often carby material replaced by pyrite. Pyrite very fine grained Few thin bands (few mm) of coal 145.05
145.05	(3.05)	1.55	50.82				1.50	CORE LOSS 146.55
							1.45	SANDSTONE Friable, Light gray N-7, Fine to medium grained, Subangular to subrounded larger grains subrounded Mostly quartz grains. About 5% dark grains, mostly carbonaceous. Comparatively clean sand. 148.00
	148.10						0.10	DIRTY SANDY COAL, Grayish black N-2, Thin bands of coal with lenses and thin bands of silt and fine to coarse sand. Not well laminated. Coal at few places contains very fine grained pyrite. Coal slightly more than 50% 148.10
148.10	(3.05)	1.03	33.78				1.03	CARBONACEOUS SHALE, Alternate hard and soft layers, brownish black 5YR 2/1 to Grayish black N/2. Hard shale contains few mm thick bands of coal and fine quartz sand. Coal contains specks of brown resin and few patches of very fine grained pyrite. Silty. Fragments of carbonaceous material at few places. Sparsely rooted near the bottom. Soft shale sticky. 149.13
	151.15						2.02	CORE LOSS 151.15

DRILL-HOLE NO DAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								151.15
151.15	(3.00)	0.16	5.34				2.84	CORE LOSS 153.99
	154.15						0.16	DIRTY SANDY COAL, Grayish black N/2, Thin bands and lenses of coal with thin bands and lenses of silt and fine to medium quartz sand. Not well laminated. Coal about 60% 154.15
154.15	(1.00)	NIL						CORE LOSS 155.15
155.15	(1.00)	NIL						CORE LOSS 156.15
156.15	(1.00)	NIL						CORE LOSS 157.15
157.15	(3.00)	0.55	18.34				0.53	SANDSTONE, SILTSTONE INTERLAMINATED. Fine grained sandstone and siltstone interlaminated Medium gray N-5 and brownish gray 5YR 4/1. Sandstone fine grained Equigranular. Mostly quartz grains. About 5% dark grains. Few burrows filled with fine & coarse clean quartz grains. Fragments of carby material sparsely distributed. One siderite nodule near the bottom. 157.68
							0.02	SANDSTONE, Light gray, muddy. Fine to very coarse, subrounded to rounded mostly quartz grains. Pyritic. Few large fragments of carby material. 157.70
							2.45	CORE LOSS. 160.15

Form

-762-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								160.15
160.15	(3.05) 163.20	1.70	55.74				0.10	SANDSTONE, Med. gray N-5, hard, compact, heavy, fine grained. Carbonaceous matter very sparsely present. 160.25
							1.35	CORE LOSS 161.60
							0.20	COAL SAMPLE NO. UAK-3-1, Black to brownish black, streak moderate brown. Few plant impressions. Sparsely pyritic and resinous. 161.80
							0.20	SHALEY COAL/HIGHLY CARBY SHALE SAMPLE NO UAK-3-2, black to brownish black. Coal and Carby silty shale interlaminated Rarely pyritic, Resin. 162.00
							0.41	COAL SAMPLE NO UAK-3-3 Black to brownish black. Streak moderate brown, Few plant impressions Very sparsely pyritic and resinous, More brittle 162.41
							0.55	COAL, SAMPLE NO UAK-3-4 Black to brownish black, streak moderate brown. Few plant impressions comparatively more pyritic and resinous 162.96
							0.24	CLAYSTONE, Light bluish gray, 5B 7/1 Few fragments of Carbonaceous material. Few thin coaly and carbonaceous bands. 163.20
163.20	(1.20) 164.40	1.20	100				0.85	SANDSTONE CLAYEY Light bluish gray 5B 7/1. Fine to very fine grained. Sparsely rooted Very few fragments of carbonaceous matter 164.05
							0.35	CLAYSTONE Light bluish gray, 5B 7/1, Contains disseminated, white rounded grains. Few fragments of carbonaceous material 164.40
164.40	(3.05) 167.45	3.05	100				2.23	CLAYSTONE Light bluish gray 5B 7/1, with bands of sandy claystone. Contains few fragments of carbonaceous matter. Few thin bands of coal near the bottom. 166.63
							0.82	COAL SAMPLE NO UAK-3-5. Colour Black N-1, streak moderate brown 5YR 3/4 with few yellowish brown resin globules. Resin along bedding planes at few places Comparatively more resinous. Well laminated at places. Plant impressions at few places. Alternate bands of lighter & slightly heavier coal 167.45
167.45	(3.05) 170.50	3.05	100				0.25	COAL SAMPLE NO UAK-3-6 Colour Black N-1, streak moderate brown 5YR 3/4, Comparatively more brittle, Few thin lenses of clayey material 167.70
							0.90	CLAYSTONE, Medium dark gray N-4. Silty in the lower half. Fragments of coaly and carbonaceous material. Carbonaceous near the top. Grades into siltstone downwards 168.60
							1.90	SILTSTONE Medium gray N-5. Scattered coaly and carbonaceous specks and fragments. Pockets and streaks of very fine to fine sand. Siltstone clayey at few places 170.50

Form 3D

-763-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								170.50
170.50							0.30	CORE LOSS 170.80
							1.12	SILTSTONE, Medium gray N-5 to light olive gray 5Y6/1, Sandy at places with very fine to fine sand. Specks and fragments of coaly and carbonaceous material. Comparatively hard and compact. 171.92
	(3.05)	2.75	90.16				0.98	SILTSTONE, Medium gray N-5 to light olive gray 5Y6/1. More sandy with very fine to fine sand. Specks and fragments of coaly and carbonaceous material 172.90
							0.65	COAL SAMPLE NO. UAK-3-7, Colour black N-1 to brownish black 5YR 2/1, streak moderate brown 5YR 3/4. Alternate bands of lighter and slightly heavier coal. Plant impressions at few places. Few yellowish brown and yellowish orange resin globules. Resin at few places along the bedding plane 173.55
173.55							0.70	COAL SAMPLE NO UAK-3-8, Colour black N-1 to brownish black 5YR 2/1 streak moderate brown 5YR 3/4. Yellowish orange, yellowish brown resin globules. Resin also along bedding planes at few places. Few thin clay lenses. Scattered pyrite at few places 174.25
	(3.05)	2.10	68.85				1.40	CLAYSTONE, Dark gray N-3 to medium dark gray N-4, specks and fragments of coaly and carbonaceous matter. Carbonaceous near the top. Shaley in the upper half. Carbonaceous near the bottom 175.65
							0.95	176.60
176.60							2.40	CORE LOSS 179.05
	(3.05)	0.60	20.0				0.60	SANDSTONE, Light olive gray 5Y6/1 to dark gray N-3, with coaly and carbonaceous streaks. Sand very fine to fine grained. Few silty bands. Few specks and fragments of coal 179.65
179.65							2.15	SANDSTONE, Medium light gray N-6 to medium gray N-5. Sandstone with few bands of siltstone. Streaks of coal and carbonaceous material almost throughout the rock. Sandstone rippled and burrowed in the middle. Sandstone friable near the bottom. Fine grained 181.80
	(3.00)	2.15	100					

CONTD—

Form 3b

-764

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	181·80							181·80
	182·65	NIL					0·85	CORE LOSS 182·65
182·65							0·10	SANDSTONE 0·04 M. Medium light gray N-6, Hard compact, heavy, fine grained. CLAYSTONE 0·06 M. Med. light gray N-6, At places silty. Carby matter very sparse 182·75
	(3·05) 185·70	0·10	3·2				2·95	CORE LOSS 185·70
185·70	(3·05) 188·75	NIL					3·05	CORE LOSS 188·75
188·75							0·05	SANDSTONE, Medium light gray N-6, Hard, compact, heavy fine grained. Carby fragments very rare 188·80
	(1·85) 190·60	0·05	2·70				1·80	CORE LOSS 190·60

Run contd

Form 10

-765-

DRILL-HOLE NO 71AK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								190.60
190.60	(3.00)	0.50	16.67				2.50	CORE LOSS
								193.10
							0.29	SILTSTONE, Med. dark gray N-4, Coal streaks, fragments common, Clayey 193.39
193.60							0.21	CLAYSTONE Med Light gray N-6. Few coaly and carbonaceous fragments Hard Compact 193.60
193.60	(1.55)	NIL					1.55	CORE LOSS
195.15								195.15
195.15	(1.45)	0.30	20.68				1.15	CORE LOSS
196.60								196.30
							0.30	CLAYSTONE Med. gray N-5, Hard, Compact, Carby fragments rare 196.60
196.60	(2.35)	2.35	100				0.47	CLAYSTONE, Med. gray N-5, Hard, Compact, At places sandy, sparsely rooted. Carby fragments very sparse. 197.07
							0.82	SILTSTONE CLAYEY Medium light gray N-6, Carby fragments very sparse, Hard, Compact. 197.89
							0.92	SANDSTONE. Med. light gray, N-6, Very fine grained. Carby fragments sparse Hard, Compact. Grades into fine grained, comparatively less hard, medium gray N-5 coloured sandstone 198.81
198.95							0.14	SANDSTONE, Pale yellowish brown, 10 YR 6/2, Medium to coarse grained. Subangular to subrounded. Hard, heavy Dominantly quartz grains. 198.95
198.95	(1.75)	NIL					1.75	CORE LOSS
200.70								200.70

Form 3b

-766-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
200.70	(1.30) 202.00	NIL					1.30	CORE LOSS 200.70 — 202.00
202.00	(1.50) 203.50	0.45	30.0				0.45	SANDSTONE Light olive gray, 5Y 6/1, Medium to coarse grained predominantely medium grained. Subrounded to rounded, larger grains rounded. Moderately sorted More than 95% quartz grains About 2% Carbonaceous matter, slightly clayey. Friable 202.45
							1.05	CORE LOSS 203.50
203.50	(3.05) 206.55	0.70	22.9				2.35	CORE LOSS 205.85
							0.42	CLAYSTONE, Medium light gray N-6, compact, hard, burrows filled with medium to coarse quartz sand. Slickensided Carbonaceous matter very sparse becomes highly carbonaceous near the bottom and grades into coal
							0.28	COAL Black N-1, to brownish black 5YR 2/1 Streak moderate brown 5YR 3/4. Comparatively less brittle, highly pyritic Few plant impressions, slightly shaley, sparsely resinous 206.55
206.55	(2.20) 208.75	NIL					2.20	CORE LOSS 208.75
208.75	(3.05) 211.80	0.85	27.86				2.20	CORE LOSS 210.95
							0.10	SILTSTONE Medium dark gray, N-4, Sandy near top, few coaly streaks and fragments. Slightly pyritic 211.05
							0.75	CLAYSTONE SILTY Med. light gray N-6, Compact, Rooted near bottom. Few plant impressions. Plant material often replaced by very fine grained pyrite. Few fragments and specks of carbonaceous matter 211.80

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								211.80
211.80	(3.05) 214.85	1.90	62.30				1.15	CORE LOSS, 212.95
							0.50	CLAYSTONE, Med light gray N-6, hard, compact, Carbonaceous fragment sparse. Few pockets of fine sand. Scattered, white, rounded 1mm size grains at one place. Hard Sandstone nodule at top 213.45
							0.11	COAL Brownish black 5YR 2/1 sparsely pyritic, resinous and banded 213.56
							1.29	CLAYSTONE, Medium light gray N-6, Hard, compact, silty, white rounded 1mm size grains scattered at few places. Fragments of carbonaceous matter sparsely present. 214.85
214.85	(3.05) 217.90	0.70	22.96				0.20	CLAYSTONE, Medium light gray N-6, Silty, Same as above 215.05
							2.35	CORE LOSS 217.40
							0.50	SANDSTONE, Light gray N-7, Medium grained Subrounded to subangular. More than 95% quartz grains. less than 5% dark probably carbonaceous and Shaley grains Friable. Comparatively clean sand 217.90
217.90	(1.40) 219.30	0.90	64.28				0.90	SANDSTONE, Light gray N-7, Friable, medium grained, subangular to subrounded. More than 95% quartz grains. Less than 5% dark carbonaceous and Shaley grains 218.80
							0.50	CORE LOSS 219.30
219.30	(1.65) 220.95	NIL					1.65	CORE LOSS 220.95

Form

-768-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
220.95							0.15	COAL 220.95 Grayish black N-2, Few globules of light brown resin banded. Few very small clay lenses. Plant impressions at few places 221.10
							0.15	CLAYSTONE, Medium light gray N-6, Carbonaceous 221.25
	(3.05)	0.30					2.75	CORE LOSS
	224.00							224.00
224.00							0.33	SANDSTONE, Light gray N-7, Very fine grained. Silty Small pockets of clay? Carby matter very rare Hard, Grades into claystone 224.33
							0.36	CLAYSTONE Medium light gray N-6. Hard, compact, Pockets of very fine sand and silt At places slickensided. Few fragments of carby material. Grades into carby Claystone 224.69
	(3.00)	1.40					0.16	CARBONACEOUS CLAYSTONE Grayish black N-2, Streaks of coal common. Few plant impressions. Very rarely pyritic and resinous 224.85
							0.55	CLAYSTONE SILTY Dark to medium dark gray. Contains coal fragments and specks. Few plant impressions. Carby near top. Grades into siltstone near the bottom. 225.40
	227.00						1.60	CORE LOSS
227.00								227.00
							0.75	SILTSTONE, Medium light gray N-6, Sparsely rooted. Thin lenses of clay Carbonaceous material sparse 227.75
	(3.05)	0.75					2.30	CORE LOSS
	230.05							230.05

-769-

DRILL-HOLE NO. UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
230.05	(1.50) 231.55	NIL					1.50	CORE LOSS 230.05 — 231.55
231.55	(1.55) 233.10	NIL					1.55	CORE LOSS 231.55 — 233.10
233.10	(3.05) 236.15	0.65					2.40	CORE LOSS 233.10 — 235.50
							0.65	SANDSTONE Light brownish gray 5YR 6/1, friable, fine to medium grained, subangular to subrounded quartz grains more than 95%. Few black carby grains 235.50 — 236.15
236.15	(3.00) 239.15	NIL					3.00	CORE LOSS 236.15 — 239.15
239.15	(1.40) 240.55	NIL					1.40	CORE LOSS 239.15 — 240.55

Form 3

-770-

DRILL-HOLE NO UAK-3

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
240.55	(1.65) 242.20	0.80					1.05	CORE LOSS 240.55
							0.60	SANDSTONE, Medium gray N-5. Fine grained, subangular to subrounded. Dominantly quartz grains About 5% shale fragments, Slightly clayey. Carbonaceous material less than 1% 242.20
242.20	(1.50) 243.70	0.77					0.73	CORE LOSS
							0.77	SANDSTONE Medium light gray N-6, Fine to medium grained Subangular to Subrounded. Mostly quartz grains less than 5% shale fragments, less than 1% Carby material 243.70
243.70	(1.55) 245.25	0.50					1.05	CORE LOSS 244.75
							0.50	SANDSTONE, Light gray N-7, Fine to medium, rarely coarse grained. Subangular to subrounded, Larger grains subrounded to rounded About 2% Carby & Shaley fragments 245.25
245.25	(1.45) 246.70	0.47					0.98	CORE LOSS 246.23
							0.47	SANDSTONE, Light gray N-7, Same as above 246.70
246.70	(1.55) 248.25	0.75					0.80	CORE LOSS 24750
							0.75	SANDSTONE Light gray N-7, Fine to medium grained, Contains some coarse grains Subangular to subrounded, mostly subrounded. Larger grains subrounded to rounded. Dominantly quartz grains About 5% shale fragments 248.25
248.25	(1.20) 249.45	0.64					0.64	SANDSTONE Same as above 248 89
							0.56	CORE LOSS 249.45
249.45	(0.55) 250.00	NIL					0.55	CORE LOSS 250 END

DRILL-HOLE NO UAJ#1.

CORE RECOVERY FROM	CORE RECOVERY TO	CORE RECOVERY CORE	CORE RECOVERY CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
00.00	2.0	CORING			1 2		2.0	SHALE:- Moderate yellowish brown, 10YR 5/4, slightly calc. sticky. forams,
2.0	4.0	NON-CO			3 4		2.0	Limestone/shale: Moderate yellowish brown, 10YR 5/4, forams, sandy.
4.0	6.0	NG.			5 6		2.0	SHALE/Lst:- Same as above.
6.0	8.0	CORI			7 8		2.0	SHALE:- Moderate yellowish brown, 10YR5/4, sticky, forams, slightly silty + sandy.
8.0	10.0	NON			9 10		2.0	SHALE:- Dark yellowish orange 10YR 6/6, sticky, forams, slightly silty + sandy.
					1 2			

SHALE ——— METING

DRILL-HOLE NO UAJ#1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
10.0	12.0				11 12		2.0	SHALE:- Dark yellowish orange, 10YR 6/6. sticky, forams, slightly silty & sandy.
12.0	14.0				13 14		2.0	SHALE:- Moderate yellowish brown, 10YR 5/4, same as above.
14.0	16.0	CORING			15 16		2.0	SHALE/LSt:- Moderate yellowish brown, Dark greenish grey, 5GY 4/1, Lit. cuttings appeared at about 15.0m, hard, forams.
16.0	18.0	NON-			17 18		2.0	LIMESTONE:- Dark greenish grey, 5GY 4/1, hard, forams, slightly sandy + silty. Shale.
18.0	20.0				19 20		2.0	LIMESTONE:- Same as above. Shales.
					1 2			

METING SHALE

METING SHALE

DRILL-HOLE NO UAT#1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
20.00	22.0				21		2.0	LIMESTONE: Dark greenish grey, 5GY 4/1, Shales. hard cuttings, fossiliferous, forams.
22.0	24.0	NON — CORING			22 23 24		2.0	LIMESTONE: Same as above. Shale
24.0	26.0	NON — CORING			25 26		2.0	LIMESTONE: Same as above. Shale
26.0	28.0	NON — CORING			27 28		2.0	LIMESTONE: Dark greenish grey 5GY 4/1 + blinish Shale. white 5B 9/1, hard cuttings, fossiliferous, forams, alveolina + Nassilina.
28.0	30.0	NON — CORING			29 30		2.0	LIMESTONE: Same as above, few cuttings of shale Shale & marl, shale is soft, laminated & moderate brown 5YR 4/4 in colour.

METING SHALE

DRILL-HOLE NO UAJ#1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
30.0	32.0	— CORING —			31		2.0	LIMESTONE:- Dark greenish grey 5GY 4/1 + 6 bluish white 5B 9/1, hard cuttings; fossiliferous, foams, assilina + alveolina, few shale cuttings of moderate brown 5YR 4/4 colour; soft + laminated.
32.0	34.0	— CORING —			32 33		2.0	LIMESTONE:- Same as above.
34.0	36.0	— NON —			34 35		2.0	MARL/LIMESTONE:- Dark greenish grey 5GY 4/1, 6 bluish white 5B 9/1 + moderate brown, 5YR 4/4, hard lst. cuttings, fossiliferous, foams, assilina, few cuttings of marl + shale.
36.0	38.0	— CORING —			36 37		2.0	Lst/Marl: Same as above.
38.0	40.0	— NON —			38 39 40		2.0	Lst/Marl: Same as above.

METING SHALE

DRILL-HOLE NO LIAJ#1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
40.0	42.0	— CORING —			41		2.00	MARL/LST:- Bluish white 5B 9/1, Dark greenish grey 5GY 4/1, hard lst cuttings, marl + shale cuttings, fossiliferous, forams.
42.0	44.0	— CORING —			42 43		2.00	LIMESTONE:- Bluish white 5B 9/1, hard cuttings, fossiliferous, forams, assilina, few shale cuttings of moderate brown colour
44.0	46.0	— NON —			44 45		1.00 1.00	LIMESTONE:- Dark greenish grey 5GY 4/1, + bluish white 5B 9/1, fossiliferous, forams, assilina mooty alveolina, few shale cuttings.
46.0	48.0	— CORING —			46 47		2.00	LIMESTONE: Same as above. Light gray, hard, rich with alveolina oblonga.
48.0	50.0	— NON —			48 49 50 1 2		2.00	LIMESTONE:- Dark greenish grey 5GY 4/1, + bluish white 5B 9/1, highly fossiliferous, forams, assilina, alveolina, some marl cuttings + few shale cuttings of moderate brown 5YR 4/4 in colour, soft + laminated.

DRILL-HOLE NO UAJ#1

METING LIMESTONE

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								50.00
50.0	0.60	0.55			50.05		0.05	Core loss from top poobably sandy shale. 50.05
	50.60						0.55	LIME STONE:- Bluish white, 5B 9/1, hard, highly fossiliferous, alveolina in abundance, forams assilina
50.60	0.80	0.80	100%		51		0.80	LIME STONE:- Bluish white, 5B 9/1, hard, highly fossiliferous, forams, alveolina & assilina, on top small band of dark grey claystone, lower part is soft & containing marl.
51.40	1.00	1.0	100%		52		1.0	LIME STONE:- Same as above.
	52.40							LIME STONE:- Bluish white, 5B9/1, highly fossiliferous, hard, compact, foraminiferal, gradually changes into clystone.
52.40	3.05	3.05	100%		53		2.10	CLAY STONE/MARL:- Greenish black 5G2/1, semi-hard, massive, slicken side, forams & shell frag. animal burrows, slightly calc.
					54			
	55.45				55		0.95	CLAY STONE/MARL:- Same as above.
55.45	0.47	0.47	100%				0.47	CLAY STONE: Same as above.
55.92					56		0.36	CLASTIC LST:- Greenish grey 5GY 6/1, semi-hard, pyritic, Glauconite, forams, shell frag. at places crystalline.
	3.05	3.05	100%		57		2.13	LIME STONE:- Bluish white 5B 9/1, hard, fossiliferous, forams alveolina & assilina, some marl.
	58.97				58			LIME STONE/MARL:- Same as above, soft, full of forams, alveolina in abundance.
58.97	1.63	1.63	100%		59		0.56	
					60		1.63	
					2			

DRILL-HOLE NO UAJ#1

METING LIMESTONE

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	60.60							
60.60	62.02 (1.42)	1.42	100%		61		1.42	LIMESTONE/MARL:- Same as above.
62.02	62.72 (0.70)	0.70	100%		62		0.70	LIMESTONE/MARL: Same as above. 62.72 Core loss from top 1st. same as above. 62.77
62.72	64.52 (1.80)	1.75	97%		63 64		1.75	LIMESTONE:- Bluish white 5B 9/1, hard, fossiliferous, forams, abriolina + assilina LIMESTONE:- Bluish white 5B 9/1, highly fossiliferous, forams, abriolina in abundance, assilina, lower part is marly. 65.97
64.52	66.0 (1.48)	1.45	98%		65 65.97		1.45	Core loss at base 1st. same as above 66.00 Core loss from top 1st. same as above. 66.06
66.0	67.16 (1.16)	1.10	95%		66 66.06 67		1.10	LIMESTONE:- Same as above. 67.16 Core loss from top 1st same as above. 67.90
67.16	69.20 (2.04)	1.30	64%		67.90 68 69		0.74 1.30	LIMESTONE:- Same as above. LIMESTONE:- Same as above.
64.20		1.10	85%		70		1.10	

DRILL-HOLE NO UAJ#1

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	70.50				70.30			70.30
						X	0.20	Core loss at base Lst/Marl same as above. 70.50
70.50					70.65	X	0.15	Core loss from top Lst. same as above. 70.65
	71.05	0.40	73%		71		0.40	LIMESTONE/MARL:- Bluish white 5B9/1, hard Lst. + soft marl, highly fossiliferous, full of forams, alveolina in abundance, assilina, massive.
71.05								
	72.64	1.59	100%		72		1.59	LIMESTONE/MARL: Same as above. 73.74
								Core loss at base Lst/Marl as above. 74.00
72.64					73		1.10	LIMESTONE/MARL: Same as above. 74.80
	74.0	1.10	81%		73.74	X	0.26	Core loss at base Lst./Marl same as above. 74.95
74.0					74			LIMESTONE/MARL:- Same as above. 76.25
	74.95	0.80	84%		74.80	X	0.80 0.15	Core loss at base Lst./Marl same as above. 76.45
74.95					75			LIMESTONE/MARL:- Same as above. 77.25
	76.45	1.30	87%		76		1.30	Core loss at base Lst/Marl same as above. 77.65
					76.25	X	0.20	LIMESTONE/MARL:- Same as above. 79.55
76.45							0.80	Core loss at base Lst./Marl same as above. 79.70
	77.65	0.80	67%		77			
					77.25	X	0.40	LIMESTONE:- Bluish white 5B9/1, hard, fossiliferous, full of forams, alveolina in abundance, assilina, at places crystalline.
77.65					78			
	79.70	1.90	93%		79		1.90	
					79.55	X	0.15	
79.70								
	3.05	3.05	100%		80		0.63	

METING LIMESTONE

DRILL-HOLE NO UAJ#1

METING LIMESTONE

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					81		1.40	MARL:- Greenish grey 5GY 6/1, compact, foraminiferal, pyritic.
								CLAY STONE:- Dark greenish grey 5G 4/1, semi-hard, animal burrows, pyritic, slicken side, slightly silty + sandy.
					82		0.50	MARL:-/LIMESTONE.
	82.75						0.52	
82.75		3.05	100%		83			Marl Greenish gray, 5G 6/1. Compact. Foraminiferal shell fragments, Glauconite.
					84		3.05	
					85			85.80
	85.80							Core loss from the Marl same as above. 85.86
85.80		0.75	93%		85.86		0.06	MARL:- Bluish white 5B 9/1, compact, forams, shell frag. Glauconite.
	86.61				86		0.75	MARL:- Greenish grey 5G 6/1, compact, slightly silty, forams, shell frag., Glauconite.
86.61		2.55	100%		87		1.78	SILTY CLAY STONE:- Medium dark gray N4, semi-hard, shell frag. forams, slicken side, pyritic.
					88			SILTY CLAY STONE:- Medium dark grey N4, semi-hard, pyritic, rarely forams at places, slicken side.
	89.16						0.77	
89.16		3.02	100%		90		2.15	
					2			

DRILL-HOLE NO UAJ#1

CORE RECOVERY FROM	TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					91			LIME STONE:- Bluish white 5B 9/1, hard, full of forams, massive, alveolina assilina.
	92.18				92		0.87	MARL/LIME STONE:- Bluish white 5B 9/1, fossiliferous, full of forams, alveolina, assilina, calcitic at places, pyritic, shell frag., massive,
92.18		3.05	3.0	98%	93		3.0	95.18 Core loss at base Marl/Lst. same as above. 95-23
	95.23				94			MARL/LIME STONE:- Same as above, Bluish white & Greenish grey.
95.23		3.05	3.05	100%	95			
	98.28				96		3.05	MARL/LIME STONE: Same as above.
98.28		3.05	3.05	100%	97			
					98			
					99		3.05	
					100			
					1			
					2			

METRES LIME STONE

DRILL-HOLE NO UAJ#1

MEETING LIMESTONE

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	101.33				101			
101.33		3.05	100%		102		3.05	MARL/LIMESTONE: Same as above.
	3.05				103			
	104.38				104			MARL/LIMESTONE: Same as above.
104.38		2.62	100%		105		2.62	
	2.62				106			
	107.0				107			MARL/LIMESTONE:- Bluish white 5B9/1 + Greenish grey 5G6/1, lst. is hard & marl is soft, highly fossiliferous, forams, alveolina + assilina, at places crystalline, pyritic, glauconite, massive, slightly silty at places.
107.0		2.0	100%		108		2.0	
	2.00							
	109.0				109			
109.0		1.60	100%		110		1.60	MARL/Lst:- Same as above.
	1.60							
					2			

DRILL-HOLE NO UAJ#1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	110.60							
110.60					111		1.75	LIMESTONE/MARL :- Same as above.
	113.65	3.05	100%		112			112.35 CLAYSTONE :- Olive gray 5Y 4/1, semi hard silty & sandy, shell fragments, wood pyritized silty nodules.
					112.35			
					113		1.30	
113.65					114		1.70	CLAYSTONE :- Olive gray 5Y 4/1, semi hard, silty, sandy shell fragments, animal burrows at places, thin layers of fine grained sand.
	116.65	3.00	2.60 87%		115			115.35 Core loss from top, set same as below.
					115.35			115.75
					115.75		0.40	SANDSTONE :- Greenish gray 5G 6/1 to medium bluish gray 5B 5/1 med hard to hard, fine grained poorly sorted, sub-angular, pyritic, clayey.
					116		0.90	
116.65								116.65 Core loss from top of sandstone, same as below.
	119.70	3.05	1.30 43%		117		1.75	118.40 SANDSTONE :- Medium bluish gray 5B 5/1 soft, loose, fine grained, poorly sorted, sub-angular clayey.
					118			SILTY CLAYSTONE/SANDSTONE Bluish gray 5B 5/1 alternate layers of silty clay & fine grained set silty nodules, animal burrow.
					118.40		0.20	
					119		1.0	SANDSTONE :- Medium bluish gray 5B 5/1 soft, loose, fine grain, poorly sorted, sub-angular, more clayey towards base.
							0.10	119.70
119.70		1.30	1.20		119.80		0.10	SILTY CLAYSTONE :- Olive black, semi hard sandy, highly carb. shell fragment & coaly portings, pyritic.
					119.90		0.10	119.80 Probably Loss from top of Coal seam 119.90 COAL

SONHARI MEMBER — METING LST.

DRILL-HOLE NO UAJ#1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
					120.30		0.40	COAL:- Brownish black 5YR 2/1 clay partings animal burrows filled with sand, pyritic. 120.30
		1.20	92%				0.70	SILTY CLAYSTONE:- Olive black, 5Y2/1 to med gray N5, semi hard, silty sandy, animal burrows, pyritic. 121.00
121.0	121.0				121		0.32	Core loss from top, silty clay same as below. 121.32
					121.32		0.30	SILTY CLAYSTONE:- Olive black 5Y2/1, semi hard sandy, carb. cooly partings, sandy layers at places 121.62
	121.87	1.55	83%		121.62		0.30	COAL:- Brownish black 5Y2/1 clay partings, resin, sandy patches, pyritic. UAJ-1-2 121.92
					121.92			
					122		0.95	SILTY CLAYSTONE:- Olive black 5Y2/1 to light bluish gray 5B7/1, semi hard, sandy, animal burrows carbonaceous, pyritic, lower part is sandy.
122.87	122.87							
					123		1.38	CLAYSTONE:- Dark gray N3, Semi hard, Slickenside, at places thin layers of fine grain sand & silt. pyritic & wood pyritized, animal burrows filled with fine sand. 124.25
	125.75	2.15	75%		124		0.15	HIGHLY CARBONECOUS SHALE:- Dark gray N3, Pyritic, slightly Silty and Sandy. 124.40
					124.40		0.02	COAL:- Brownish black 5Y2/1, clay partings, Pyritic resin, blocky 124.42
					124.42		0.53	SAND/CLAYSTONE:- Dark gray N3, alternate thin layers of sand & clay. Sand:- soft, loose, fine grain, poorly sorted. Claystone; semi hard, slightly carb, pyritic, resins. 125.02
					125.02		0.73	CORE LOSS:- from base of sand/claystone, probably same as above 125.75
125.75							0.30	CORE LOSS:- from top of siltstone, probably same as below. 126.05
	127.75	1.70	85%		126.05		1.70	SILTSTONE: Olive black 5Y2/1, Semi hard, Thin layers of fine grain sand, pyritic, animal burrows Slightly carbonaceous, at places clay layers. wood pyritized, cooly partings.
127.75					127			
	128.97	1.16	95%		128		1.16	SILTSTONE:- Same as above. 128.91
					128.91		0.06	CORE LOSS:- from base of siltstone, probably same as above 128.97
128.97					129		0.90	SILTSTONE:- Same as above. Clay percentage increases down ward. 129.87
	130.25	1.28	100%		130		0.38	SILTCLAYS:- Olive black 5Y2/1, Semi hard, Slickenside thin layers of fine grain sand, Silty and siderite

SONHART MEMBER

DRILL-HOLE NO IIAJ#1

SONHARI MEMBER

CORE RECOVERY FROM	TO	CORE	CORE%	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
								nodules, Carbonaceous, pyritic. 130.25
130.25					130.52		0.27	CORE LOSS:- from top of Siltstone probably Same as below 130.52
							0.20	SIDERITE NODULES:- Light gray N7, very hard & compact.
	1.77	1.50	85%		131		1.30	SILTSTONE:- Dark gray N3, Semi hard, thin layers of fine grain sand & clay. Siderite nodules, Carbonaceous and coaly partings, pyritic, resins, animal burrows filled with fine grain Sand, at places Sandy patches 132.02
	132.02				132			
132.02					132.15		0.13	CORE LOSS: from top of Siltstone, probably Same as above 132.15
	1.43	1.30	91%		133		1.30	SILTSTONE:- Same as above 133.45
133.45	133.45							
	1.55	0.65	42%		134		0.90	CORE LOSS:- from top of Sandstone, Probably Same as below 134.35
					134.35		0.25	SANDSTONE:- Medium bluish gray 5B5/1, soft- friable fine grain, moderately sorted, subangular to subrounded Slightly Carb, clayey; siderite nodules.
							0.40	SANDSTONE:- Medium bluish gray 5B5/1, very hard & compact, ferruginous, Siderite nodules. fine grain 135
	135.00				135		0.06	CORE LOSS:- from top of Sandstone; probably Same as below 135.06
135.00	0% 135.40	0.34	85%		135.06		0.34	SANDSTONE: Medium bluish gray 5B5/1, hard, fine grain, Subangular
135.40	1.10	1.10	100%		136		0.70	SILTY CLAYSTONE:- Olive gray 5Y4/1 to olive black 5Y2/1 Semi hard, thin layers of fine grain sand, animal burrows filled with fine sand, pyritic, Carb, clayey
	136.50						0.40	CLAYSTONE:- OLIVE black 5Y2/1, Semi hard, Slickenside highly Carb, Siderite & Silty nodules, at places Silty, thin lamination of Shale, coaly partings
136.50	1.50	1.50	100%		137		1.50	CLAYSTONE:- OLIVE black 5Y2/1, Semi hard, Slickenside highly Carb & coaly partings, at places Silty, in the lower part Shells fragments (pectens). Siderite and Silty nodules.
	138.00							
138.00	0.54	0.54	100%		138		0.54	CLAYSTONE:- Same as above
138.54	138.54 0.56	0.56	100%				0.56	CLAYSTONE:- Same as above
	139.10				139			
139.10	2.07	2.07	100%		140		2.07	SANDSTONE / CLAYSTONE:- Interlayered, olive gray 5Y4/1, Medium gray N5, olive black 5Y2/1 Sandstone; fine grain, soft; Subangular to Subrounded, moderately Sorted, few black minerals, pyritic, interlayered with
					1			
					2			

DRILL-HOLE NO UAJ#1

SONHARI MEMBER

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	141.17	2.07	100%		141		2.07	with olive black claystone, semi hard, carb, silty shell fragments, animal burrows, thin layers of silt.
141.17					142		0.93	CLAYSTONE:- Olive black 5Y2/1, semi hard, silty, lower part full of shell fragments; thin layers of silt- Carbonaceous, animal burrows, pyritic.
	146.22	3.05	100%		143		2.12	Silty Sandstone:- Light-gray N7, hard & compact fine to medium grain, at places coarse grain Subangular to Subrounded, poorly sorted, fossiliferous (forams & shell fragments) Calc.
144.22					144			
	146.20	1.98	100%		145		1.00	SILTY CLAYSTONE:- Medium gray N5, semi hard, full of shell fragments & forams, pyritic, & wood pyritized thin layers of silt & sand, animal burrows.
							0.28	SILTSTONE:- Light-gray N7, hard & compact, forams & full of shell fragments, pyritic, Carbonaceous, Sandy
					146		0.70	SILTY CLAYSTONE:- Medium gray N5, semi hard full of shell fragments & forams same as above.
146.20							0.80	SILTSTONE:- Light bluish gray 5B7/1, semi hard, sandy shell fragments & forams abundance, calcareous, pyritic.
	148.55	2.35	94%		147		1.60	SANDY CLAYSTONE:- Medium dark gray N4 semi hard, fine grained sand lamination inter-layered, carbonaceous, animal burrows filled with fine sand. pyritic.
		2.20			148			148.40
					148.40		0.15	Core loss at base, same as above Sandy claystone. 148.55
148.55								CLAYSTONE:- medium dark gray N4, semi hard, carbonaceous, wood pyritized debres, animal burrows, filled with pyrite and fine grained sand, cooly flakes at places.
		1.77	100%		149		1.47	
		1.77			150			
					1			
					2			

DRILL-HOLE NO UAJ#1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	150.32						0.30	HIGHLY CARBONACEOUS SHALE :- Dark gray N3, semi hard coaly partings, resin, pyrite, pyritized wood. 150.32
150.32					150.72		0.40	COAL :- Brownish black 5YR 2/1 blocky, soft, pyritic UAJ-1-3 150.72
					151		0.35	CLAYSTONE :- Medium gray N5, semi hard, slight carb, wood pyritized, lower part sandy.
	3.05	1.40	46%		151.72		0.65	SANDSTONE :- Medium Light gray N6, semi hard fine to med grained, slight carb. pyritic, sub-rounded grain.
					152		1.65	Core loss may be from top of coal or from SST. 151.72
	153.37				153			153.37
153.37								Core loss probably the SST same as above.
	1.28	NIL	NIL		154		Loss 1.28	
	154.65							154.65
154.65					155		0.60	SANDSTONE :- Medium Light gray N6, soft, loose, fine to medium grain, sub-angular to sub-rounded, moderately sorted, lower part clayey, siderite nodules 155.25
	0.70	0.60	86%		155.25		0.10	Core loss, same as above. 155.35
155.35	155.35						0.65	SILTSTONE :- Light olive gray 5Y6/1, semi hard. Thin lamination of sand at places, clayey, carbonaceous siderite nodules, pyritic, wood pyritized.
	1.20	1.20	100%		156		0.55	SILTY CLAYSTONE :- Light olive gray 5Y6/1 semi hard, sandy, carbonaceous, siderite nodules, wood pyritized. Thin lamination of fine grained sand.
156.55								SILTY CLAYSTONE :- Brownish 5YR 4/1, olive gray 5Y 4/1, semi-hard, thin bands of silty + sand siderite + silty nodules, carbonaceous, rarely shell fragments, animal burrows, wood pyritized pyritic, shell fragments are common in sandy bands.
	2.70	1.98	73%		157		1.98	
					158			158.53
	159.25				158.53		0.72	Core loss from base of silty claystone. probably same as above.
159.25					159			159.25
	2.05	2.05	100%		160		2.05	SILTY CLAYSTONE :- Same as above, only shell fragments increase.

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DRILL-HOLE NO UAT#1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	161.30				161			
161.30	1.10	1.10	100%		162		1.10	SILTSTONE:- Light olive gray 5Y6/1 to Olive gray 5Y4/1 Semi hard, thin layers of fine grain sand, at places clayey, carbonaceous, pyritic & wood pyritized, siderite nodules
162.40	3.05	3.05	100%		163 164 165		3.05	SILTSTONE:- Olive gray 5Y4/1 to olive black 5Y2/1 Semi hard, at places thin layers & bands of sand & clay. Siderite & silty nodules pyritic & wood pyritized, animal burrows, lower part more clayey. rarely shell fragments.
165.45	3.05	3.05	100%		166 167 168		3.05	SILTYCLAYSTONE:- Olive black 5Y2/1, Semi hard, thin layers of fine grain sand, Silty & siderite nodules, pyritic & wood pyritized, carbonaceous, animal burrows, shell fragments in sand layers. Mud concretions. Slickenside, conchoidal fractures.
168.50	3.05	3.05	100%		169 170 1 2		3.05	SILTYCLAYSTONE:- Same as above.

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DRILL-HOLE NO UAU #1

CORE RECOVERY FROM	CORE RECOVERY TO	CORE	CORE %	WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
	171.55				171			
171.55	3.05	3.05	100%		172		3.05	SILTYCLAYSTONE:- Olive black 5Y2/1, Semi hard, Carbonaceous, thin layers of fine grain Sand, Silty and Siderite nodules pyritic & wood pyritized), animal burrows, at places Shell fragments in thin layers of Sand & Silt; Mud Concretion Slickenside, at places Silt percentage increases.
					173			
	174.60				174			
174.60	3.00	3.00	100%		175		3.00	SILTYCLAYSTONE:- Olive black 5Y2/1, Semi hard, Shell fragments, Carbonaceous Slickenside, Concoidal fracture: Silty and Siderite nodules are of larger size than above. Thin layers of Sand and Silt: pyritic and wood pyritized.
	177.60				176			
					177			
					178			BOTTOM OF HOLE 177.60 m.
					179			
					180			
					181			
					182			