

DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY

Report on coal resource exploration assessment program  
drilling and related activities,  
September 1987 to February 1988  
Conducted in the Indus East coal area  
Southern Sind Province, Pakistan:

LITHOLOGIC LOGS

Open-File Report 88-543-B

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Report prepared jointly by the Geological Survey of Pakistan and  
the U.S. Geological Survey under the auspices of the U.S. Agency  
for International Development

This report is preliminary and has not been reviewed for conformity  
with U.S. Geological Survey editorial standards and stratigraphic  
nomenclature.

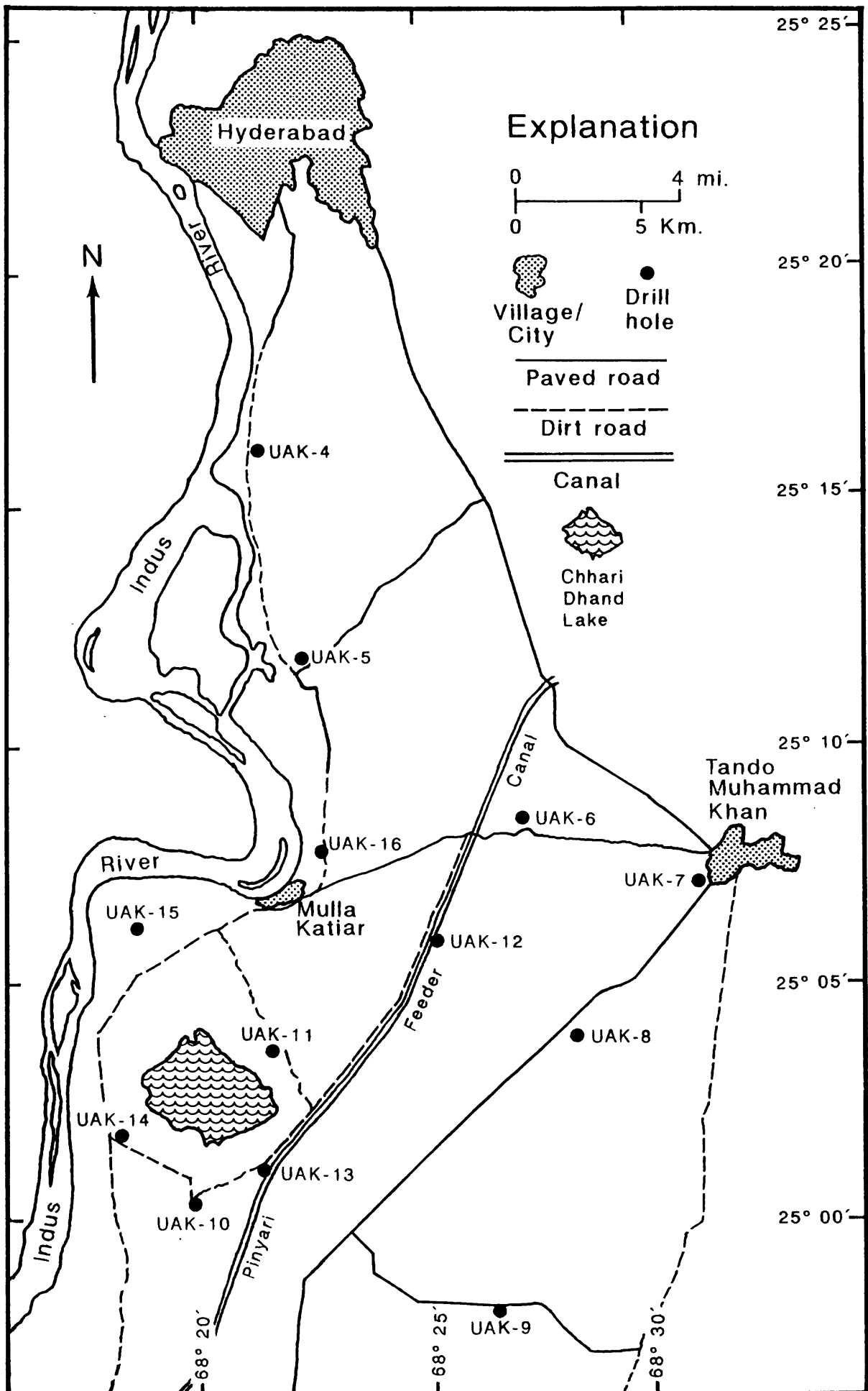
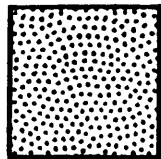
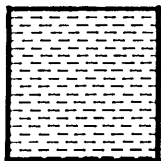


Figure 1.-General location of drill holes

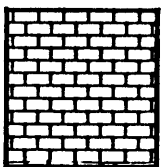
# EXPLANATION OF LITHOLOGIC SYMBOLS USED



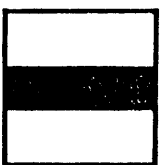
**Sandstone**



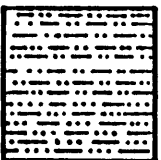
**Shale/Claystone**



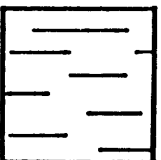
**Limestone**



**Coal**



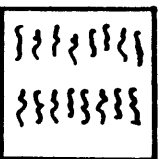
**Siltstone**



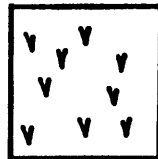
**Mudstone**



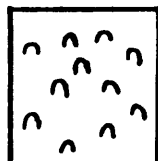
**Carbonaceous shale**



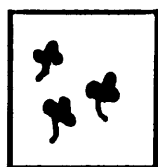
**Underclay**



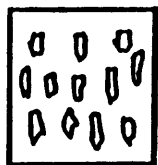
**Alluvium**



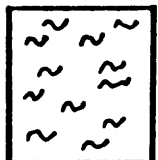
**Fossil shell fragments**



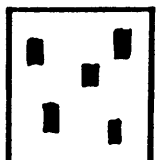
**Fossil plant fragments**



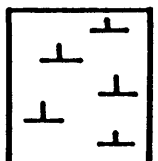
**Fossil hash**



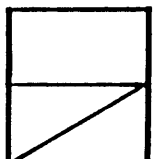
**Glaucinite**



**Pyrite**



**Calcareous**



**Core loss**

Lithologic Log

for

Drill Hole

UAK-4



DRILL-HOLE NO

UAK-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
00.00		NON-CORING			1		2.0	Limestone:- Pale yellowish orange 10YR 8/6, soft, marly, gypsaceous, shell frag.
02.00	02.00				2		2.0	Claystone:- Moderate yellowish brown, 10YR 5/4, semi-hard, very sticky clay mixed with sandy shale.
04.00	04.00	NON-CORING			4		2.0	Marl/Lst:- Pale yellowish orange 10YR 8/6, soft, forams, & shell frag, gypsaceous.
06.00	06.00				6		2.0	Marl/Lst:- Pale yellowish orange 10YR 8/6, soft, forams & shell frag, gypsaceous.
08.00	08.00	NON-CORING			8		2.0	Marl/Lst:- Same as above.
10.00	10.00				10			
					1			
					2			

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P.4

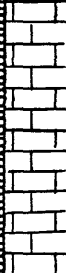

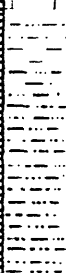
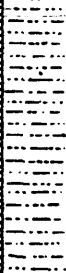
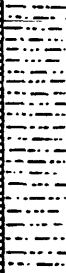


Form 3a

DRILL-HOLE NO **UAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
10.00		CORING			11		2.0	Marl/lt:- Pale yellowish orange 10YR 8/6, soft, shell frag. slightly sandy, forams.
12.00	12.00				12			
12.00		NON - CORING			13		2.0	Silt stone:- Medium grey N5, v. fine black mineral cuttings, slightly clayey, calcareous.
14.00	14.00				14			
14.00		CORING			15		2.0	Silt stone/lt:- Med. grey N5 & very light grey N8, slightly clayey, forams, as inia.
16.00	16.00				16			
16.00		NON - CORING			17		2.0	Lst./claystone:- Light grey N7 & Med. grey N5, forams.
18.00	18.00				18			
18.00		NON - CORING			19		2.0	Limestone:- light grey N7, gypsum cuttings, fine oxidized cuttings moderate red SR 4/6 colour, forams, black minerals.
20.00	20.00				20			
					21			
					22			

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DRILL-HOLE NO **WAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
20.00		NON-CORING			21		2.0	Limestone:- Very light grey N8, gypsum cuttings, black minerals, fine oxidized cuttings, forams.
22.00	22.00				22			
24.00	24.00	NON-CORING			23		2.0	Limestone:- Very light grey N8, Same as above.
26.00	26.00				24			
28.00	28.00	NON-CORING			25		2.0	Siltstone - Medium Light grey N6, slightly calcareous, and slightly clayey, black minerals.
30.00	30.00				26			
		NON-CORING			27		2.0	Siltstone - Same as above.
					28			
		NON-CORING			29		2.0	Siltstone - Same as above.
					30			
					1			
					2			

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DRILL-HOLE NO. 11AK-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
30.00		CORING			31		2.0	Claystone:- light bluish grey SB 7/1, few pyrite grs., glauconite, slightly calc. black minerals, slightly silty.
	32.00				32		~ ±	
32.00		NON			33		2.0	Claystone:- Same as above.
	34.00				34		~ ±	
34.00		CORING			35		2.0	Claystone:- Same as above.
	36.00				36		~ ±	
36.00		CORING			37		2.0	Claystone:- light bluish grey SB 7/1, & olive grey SY 4/1, few pyrite grs. few v. fine black minerals, slightly calc.
	38.00				38		~ ±	
38.00		NON			39		2.0	Claystone:- olive grey SY 4/1, same as above.
	40.00				40		~ ±	
					41			
					42			

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DRILL-HOLE NO UAK-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
40.00	42.00	CORING			41		2.0	Claystone:- Same as above.
42.00	44.00	NON			42		2.0	Claystone:- light bluish grey 5B7/2 & olive grey 5Y4/2, Glauconite, few pyrite grs. forams, slightly calc.
44.00	46.00	—			43		2.0	
46.00	48.00	CORING			44		2.0	Claystone:- light bluish grey 5B7/2 & olive grey 5Y5/2, few pyrite grs. slightly calc. few black minerals.
48.00	50.00	NON			45		2.0	
					46		2.0	Claystone:- Dark greenish grey 5G4/2, sticky pyrite grs. few forams, slightly calc. few black minerals.
					47		2.0	
					48		2.0	Claystone:- light bluish grey 5B7/2, same as above but no forams.
					49		2.0	
					50		2.0	
					1			
					2			

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DRILL-HOLE NO **WAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
50.00		CORING			51		2.0	Claystone:- Same as above.
	52.00				52		2.0	
52.00		NON			53		2.0	Claystone:- Same as above.
	54.00				54		2.0	
54.00		NON			55		2.0	Claystone:- Greenish grey s.s. 6/8, same as above.
	56.00				56		2.0	
56.00		CORING			57		2.0	Claystone:- Same as above.
	58.00				58		2.0	
58.00		NON			59		2.0	Claystone:- Same as above.
	60.00				60		2.0	

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DRILL-HOLE NO **UAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
60.00	62.00	CORING			61		2.0	Claystone:- light olive grey 5.56/1, slightly calc. pyrite grs. few black minerals.
62.00	64.00	NON			62		2.0	Claystone:- light olive grey same as above
64.00	66.00	—			63		2.0	Claystone:- Same as above.
66.00	68.00	CORING			64		2.0	Claystone: Same as above
68.00	70.00	NON			65		2.0	Claystone:- Same as above.
					66		2.0	
					67		2.0	
					68		2.0	
					69		2.0	
					70		2.0	
					71		2.0	
					72		2.0	

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DRILL-HOLE NO **UAK-8**











CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
70.00	72.00	CORING			71		2.0	Claystone: light olive grey 5Y 6/1, light bluish grey 5B 7/1, same as above.
72.00	74.00	NON			73		2.0	Claystone: Same as above.
74.00	76.00	—			75		2.0	Claystone: Same as above.
76.00	78.00	CORING			77		2.0	Claystone: Same as above.
78.00	80.00	NON			79		2.0	Claystone: Same as above.
					80			
					1			
					2			

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P.11

DRILL-HOLE NO **UAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
80.00		CORING			81		2.0	Limestone: - very light grey Ng, forams, alveolina, & assilina.
	82.00				82		2.0	
82.00		NON			83		2.0	Limestone: - Same as above.
	84.00				84		2.0	
84.00		NON			85		2.0	Limestone: - Same as above.
	86.00				86		2.0	
86.00		CORING			87		2.0	Limestone: - Same as above.
	88.00				88		2.0	
88.00		NON			89		2.0	Limestone: - very light grey Ng, forams, alveolina & assilina.
	90.00				90		2.0	

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DRILL-HOLE NO **UAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
90.00								
		CORING			91		2.0	Limestone:- Same as above.
92.00					92			
		NON			93		2.0	Limestone:- very light grey Ng, forams, alveolina, 4 assilina, marly.
94.00					94			
					95		2.0	Limestone:- Same as above.
96.00					96			
		CORING			97		2.0	Limestone:- Same as above.
98.00					98			
		NON			99		2.0	Limestone/claystone:- very light grey Ng + light grey Ng, forams, alveolina.
100.00					100			
					1			
					2			

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DRILL-HOLE NO **UAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
100.00		CORING						Limestone:- very light grey N <sub>8</sub> , forams, alveolines.
	102.00				101		2.0	
102.00		NON			102			Limestone:- Same as above.
	104.00				103		2.0	
104.00					104			Limestone:- Same as above.
	106.00				105		2.0	
106.00		CORING			106			Limestone:- Same as above.
	108.00				107		2.0	
108.00		NON			108			Lst./Marl/claystone:- Light grey N <sub>7</sub> , few gypsum cuttings.
	110.00				109		2.0	
					110			
					1			
					2			

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DRILL-HOLE NO **UAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
110.00	112.00	CORING			111		2.0	Lst./Claystone:- Light grey N7.
112.00	114.00	NON			112		2.0	Lst./Claystone:- Light grey N7, black mineral cuttings.
114.00	116.00	—			114		2.0	Limestone:- Light grey N7, forams, alveolina, black mineral cuttings.
116.00	118.00	CORING			116		2.0	Claystone/Lst. cuttings:- Dark grey N3 & light grey N7, few pyrite grs. black mineral cuttings.
118.00	120.00	NON			118		2.0	Claystone:- Light bluish grey 5B7/1 & olive black 5Y2/1, pyrite grs. carbonaceous cuttings, few black minerals.
					120		2.0	

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DRILL-HOLE NO ~~UAK-4~~

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
120.00	122.00	CORING			121		2.0	Claystone: olive grey 5Y 4/2, sticky, black mineral cuttings
122.00	124.00	NON			123		2.0	Claystone: olive grey 5Y 4/2, slightly co. black mineral cuttings, pyrite spots.
124.00	126.00	—			125		2.0	Claystone: Same as above.
126.00	128.00	CORING			127		2.0	Claystone: Same as above.
128.00	130.00	NON			129		2.0	Claystone: olive grey 5Y 4/2, fine black mineral cuttings.
					130			
					1			
					2			

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DRILL-HOLE NO **UAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
130.0		CORING			131		2.0	Claystone - Same as above.
132.0	132.0	NON			132		2.0	Siltstone/claystone: - light bluish grey 5B7/1 & olive black 5Y2/1, slightly carb., fine black mineral cuttings, few qtz grains.
134.0	134.0	—			134		2.0	Limestone/siltst/clay st: - very light grey N8, olive grey 5Y4/1, and medium bluish grey 5B, 5/1, forams.
136.0	136.0	CORING			136		2.0	Siltstone/limestone: - olive grey 5Y4/1, and olive black 5Y2/1, black minerals, few qtz grains. Slightly calcareous.
138.0	138.0	NON			138		2.0	Siltstone/claystone: - light bluish grey 5B7/1 & olive black 5Y2/1, slightly calc, fine black mineral cuttings.
	140.0				140		1	
					1			
					2			

P17

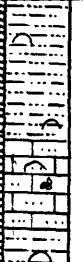









DRILL-HOLE NO **UAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
140.0		CORING			141		2.0	Siltstone/claystone: Same as above.
142.0	142.0				142			
		NON			143		2.0	Siltstone/claystone: Same as above.
144.0	144.0				144			
		---			145		2.0	Limestone/siltstone: - light grey N7, Med. grey N5, forams shell frag. pyrite grs.
146.0	146.0				146			
		CORING			147		2.0	Limestone: - light grey N7, few v. grs. forams, assilina & abrialina, shell frag.
148.0	148.0				148			
		NON			149		2.0	Limestone/siltst. cuttings: - light grey N7 & Med. grey N5, shell frag. forams, gypsum cuttings.
150.0	150.0				150			
					1			
					2			

R18

DRILL-HOLE NO

UAK-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
150.0		CORING			151		2.0	1st./silt st. cuttings:- Same as above.
	152.0				152		2.0	
152.0		NON			153		2.0	Limestone:- light grey N5, forams, assilina, shell frag.
	154.0				154		2.0	
154.0		CORING			155		2.0	Limestone:- Same as above.
	156.0				156		2.0	
156.0		NON			157		2.0	Limestone:- Same as above.
	158.0				158		2.0	
158.0		CORING			159		2.0	1st./silt stone cuttings:- light grey N4 & olive grey S1 4/1, forams.
	160.0				160		2.0	



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DRILL-HOLE NO **UAK-14**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
160.0		CORING			161		2.0	Silt stone / clay stone :- olive grey 5Y 4/1 & olive black 5Y 2/1, pyrite grs. slightly calc.
	162.0				162		2.0	
162.0		NON			163		2.0	Silt st. / clay stone :- Same as above.
	164.0				164		2.0	
164.0		—			165		2.0	Lst. / silt st. / clay stone :- Med. grey N5 & olive grey 5Y 4/1, pyrite grs., forams.
	166.0				166		2.0	
166.0		CORING			167		2.0	Lst. / silt st. / clay st. :- Same as above.
	168.0				168		2.0	
168.0		NON			169		2.0	Silt stone / clay st. :- olive grey 5Y 4/1 & olive black 5Y 2/1.
	170.0				170		2.0	

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DRILL-HOLE NO **UAK#4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
170.0	172.0	CORING			171		2.0	Silt stone / claystone :- Same as above.
172.0	174.0	NON -			172		2.0	Siltst./clayst./lst. :- light grey N7 & olive grey 5Y4/1, forams.
174.0	176.0	-			173		2.0	
					174		2.0	Siltst./claystone :- olive grey 5Y4/2 + olive black 5Y2/1.
176.0	178.0	CORING			175		2.0	
					176		2.0	Sandy siltstone :- light olive grey 5Y6/1, sand is med. gr. sub-sorted, calc.
178.0	180.0	NON -			177		2.0	
					178		2.0	Siltst./clayst./lst. :- light olive grey 5Y6/1, light grey N7, forams, few pyrite grs. fine black mineral cuttings, qtz. grs.
					179		2.0	
					180		2.0	
					1			
					2			

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DRILL-HOLE NO **UNK#4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
180.0		CORING			181		2.0	Silt st./clayst. Same as above, calc.
	182.0				182			
182.0		NON			183		2.0	Silt st./claystone :- Olive grey 5Y4/1, & olive black 5Y2/1, pyrite gss. gypsum cuttings, calc.
	184.0				184			
184.0		—			185		2.0	Silt stone / st. cuttings :- Olive grey 5Y4/1 & light grey N7, few qtz. gss. calc.
	186.0				186			
186.0		CORING			187		2.0	Sand stone :- Light olive grey 5Y6/1, med. go. sub. rounded, black minerals, >80% qtz gss., pyrite gss., slightly calc.
	188.0				188			
188.0		NON			189		2.0	Sandst./Silt stone :- Light olive grey 5Y6/1 & olive grey 5Y4/1, sand is fine go. sub. rounded, qtz. gss. <50%, black mite, pyrite gss., fine black mineral cuttings.
	190.0				190			
					1			
					2			

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DRILL-HOLE NO UAK-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
190.0		CORING			191		2.0	Silt stone / Lit. cuttings:- Olive grey SR 4/1 & light grey N7, forams, qtz grs., arsilina
192.0	192.0				192		2.0	Silt stone / clay stone:- Olive grey SR 4/1, qtz grs. calc.
194.0	194.0	NON			193		2.0	
194.0	194.0				194		2.0	Sandy limestone:- Light grey N7, qtz grs. Glauconite, forams, black minerals.
196.0	196.0				195		2.0	
196.0	196.0				196		2.0	Sand stone:- Light grey N7, med. gr. sand, sub-rounded, qtz grs. < 40%
198.0	198.0	CORING			197		2.0	
198.0	198.0				198		2.0	Sand stone:- Light grey N7, med. grained, sub-rounded, slightly clayey.
200.0	200.0	NON			199		2.0	
					200			

Lakhra  
Baza.

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DRILL-HOLE NO MAK-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
200.0	202.0	CORING			201		2.0	Sandstone:- light grey N <sub>7</sub> , med. gr., sub-rounded.
202.0	204.0	NON			203		2.0	Sandstone:- Same as above.
204.0	206.0				205		2.0	Sandstone:- light grey N <sub>7</sub> , med. gr., sub- angular to sub-rounded, pyrite grs.
206.0	208.0	CORING			207		2.0	Sandstone:- Same as above.
208.0	210.0	NON			209		2.0	Sandstone:- light grey N <sub>7</sub> , fine gr. slightly clayey, sub-angular to sub-rounded, qtz grs. > 50% black minerals.
					210			

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DRILL-HOLE NO UAK-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
210.0					211		2.0	Sand stone:- light grey N <sub>7</sub> , med. gr., poorly sorted, sub-angular to sub-rounded, 75% qtz grs.
212.0	212.0				212			
					213		2.0	Sand stone:- Same as above.
					214			
214.0	214.0				215		2.0	Sand stone:- light grey N <sub>7</sub> , fine gr. well sorted, sub. rounded, 75% qtz grs.
					216			
216.0	216.0				217		2.0	Sand stone:- light grey N <sub>7</sub> , med. gr., well sorted, black minerals, sub-rounded.
					218			
218.0	218.0				219		2.0	Sand stone:- Light grey N <sub>7</sub> , same as above.
					220			
	220.0							
					1			
					2			

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DRILL-HOLE NO UAK-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
220.0					221		2.0	Sand stone:- Same as above.
222.0	222.0				222			
					223		2.0	Sand stone:- light grey N <sub>7</sub> , med. gr. sub-rounded, pyrite grs. moderately sorted, black minerals, >60% qtz grs.
224.0	224.0				224			
					225		2.0	Sand stone:- Same as above.
226.0	226.0				226			
					227		2.0	Sand stone:- light grey N <sub>7</sub> , med. gr. sub-angular to sub-rounded, slightly clayey, well sorted, >60% qtz grs.
228.0	228.0				228			
					229		2.0	Sand stone:- light grey N <sub>7</sub> , med. gr. sub-rounded, well sorted, few black & pink minerals, >80% qtz grs.
	230.0				230			
					1			
					2			

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DRILL-HOLE NO

WAK-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
230.0		CORING			231		2.0	Sand stone:- Med. light grey Ng, fine gr. angular to sub. rounded; moderately sorted, few black minerals, <60% qtz grs.
232.0	232.0	NON			232		2.0	Sand stone: Same as above.
234.0	234.0	—			235		2.0	Sand stone:- Med. light grey Ng, fine gr. sub-angular to sub-rounded, well sorted, >60% qtz grs. black minerals.
236.0	236.0	CORING			236		2.0	Sand stone:- Same as above.
238.0	238.0	NON			238		2.0	Sand stone:- Med. light grey Ng, med. to fine gr. sub-angular to sub-rounded, moderately sorted, black minerals, slightly clayey, qtz grs. >50%.
	240.0				240			
					1			
					2			



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DRILL-HOLE NO

UAK-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
240.0		CORING			241		2.0	Sand stone - light grey N <sub>6</sub> , coarse gr., sub-angular to sub-rounded, poorly sorted, few black minerals, >85% qtz grs.
242.0	242.0				242			
		NON			243		2.0	Sandstone:- Same as above.
244.0	244.0				244			
					245		2.0	Sand stone:- light grey N <sub>7</sub> , med. gr. sub-rounded, well sorted, few black minerals, >85% qtz grs.
246.0	246.0				246			
		CORING			247		2.0	Sandstone:- Same as above.
248.0	248.0				248			
		NON			249		2.0	Sandstone:- Same as above.
250.0	250.0				250			
					1			
					2			

DRILL-HOLE NO **UAK-4**

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CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
250.0		0.65	100%				0.65	Silt stone:- Dark grey N3, semi-hard, inter-layer fine gr. sand of greenish grey
250.65	260.65				251		0.90	5 gr 1/2, Glauconite, animal burrows filled with fine gr. sand, well sorted, 75% qtz grs. pyrite grs., Carb. flakes.
		0.90	89%		252		2.15	Silt stone:- Same as above, shell frag. in the lower part from 0.60m - 0.90m, siderite nodules, clayey at places, clay nodules.
					253			Core loss at base. silt stone as above.
	253.70							Silty clay stone:- Olive black STR 2 1/2, semi-hard, conoidal frag, wood pyritized,
253.70					254		1.82	coaly partings & flakes, resins, limonite, pyrite grs., sandy towards base.
		3.05	100%		255		0.13	Dirty Coal:- Brownish black STR 2 1/2, resin, animal burrows filled with sand pyrite grs.
					256		1.10	Silty claystone:- Brownish black STR 2 1/2, semi-hard, wood pyritized, plant debris, resins, pyrite grs. carb. flakes & partings.
	256.75						0.25	Core loss from top silty claystone same as above.
256.75		1.60	86%		257		1.60	Silty claystone:- Brownish black STR 2 1/2 & dark grey N3, same as above, siderite
					258			nodule at base having pyrite grs. & calcite veins.
	258.60						0.25	Core loss from top probably silty claystone.
258.60		2.60	91%		259		1.85	Silt stone:- olive black STR 2 1/2, semi-hard, wood pyritized, pyrite grs. plant debris, carb. frag., animal burrows filled with sst. sub-rounded, med. gr. 75% qtz grs. sandy layers & patches at places.
					260			

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DRILL-HOLE NO. **UAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
261.45	261.65				261		0.75	Sandstone:- light grey N5, loose + friable, med. gr., sub-rounded, clayey layers at places, well sorted, hard at base, quartzitic about 0.05m, Glauconitic.
							0.20	
		1.45	69%		262		1.25	Sandstone:- very light grey N8, hard, med. gr. well sorted, sub-angular to sub-rounded, Glauconitic, calc., thin carb. laminations, >60% qtz. gss. flaser bedding, quartzitic.
					263		0.65	Sandstone:- Very light grey N8 + light olive grey, 5R 6/2, loose + friable, fine gr. sub-angular, well sorted, black minerals, >50% qtz. gss carb. patches, at places clayey, thin carb. layers.
263.55	263.55				264		1.58	Core loss at base sst. as above.
		3.05	100%		265		0.15	Sandstone:- Same as above.
							0.70	Carb. shale:- olive black 5YR 2/1, semi-hard, animal burrows with med. gr. sst., pyritic, sub-rounded, well sorted, wood pyritized, coaly bands & flakes, resins.
					266		0.62	Coal/Dirty coal:- Brownish black 5YR 2/1, sub-vitrinite, animal burrows, clayey, resins, blocky.
266.60	266.60				267		1.32	Silty claystone:- Olive black 5YR 2/1, semi-hard, carb, wood pyritized, coaly partings & flakes, resins, laminations, pyritic gss., sandy towards base.
		3.05	100%		268		0.13 0.15 0.15	
					269		1.28	Sandstone:- Med. dark grey N4, semi-hard, fine gr., sub-angular to sub-rounded, Glauconitic, well sorted, >50% qtz. gss, black minerals, clayey, wood pyritized, resins, carb., animal burrows, clay layer increases towards base & gradually changes into claystone.
269.65	269.65				270			Carb. shale:- Olive black 5YR 2/1, semi-hard, laminated, plant debris, wood pyritized, leaf prints, coaly flakes & frags, resins, pyritic gss.
								Dirty coal:- Brownish black 5YR 2/1 + olive black 5YR 2/1, resins, pyritic, sub-vitrinite.
								Carb. shale:- Olive black 5YR 2/1, semi-hard, laminated, plant debris, wood pyritized, cont....

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DRILL-HOLE NO

UAK-4

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		1.40	64%		271		1.40	Coaly flakes & frag., resin, pyrite grs.
	271.85				272		0.80	Claystone sst. intercalated: - olive black SY2H & light grey SY6H, carb., pyrite grs., resins, wood pyritized, plant debris, sst. is fine gr. sub-angular, glauconitic, 75% qtz grs. black minerals, clay balls at places.
271.85		2.60	85%		273		2.60	Silty claystone: Med. dark grey N4, & brownish black SYR2H, semi-hard, carb. at places, resins, pyrite, animal burrows filled with fine gr. sand, wood pyritized, coaly flakes, clay balls at places, fine laminations of sst. at places, siderite nodule about 0.05m at base.
	274.40				274		0.45	Core loss at base probably silty claystone.
274.40					275		0.60	Claystone: light bluish grey SB7H4 Med. dark grey N4, semi-hard, plant debris, wood pyritized, pyrite grs. coaly flakes & partings, leaf prints, sandy & silty.
		0.60	20%		276		2.45	Core loss at base claystone as above.
	277.45				277			Sandstone: Med. grey N5 & light olive grey SY6H1, loosely cemented, fine gr., well sorted, sub-angular to sub-rounded, glauconite, 76% qtz. grs., fine laminations of claystone, coaly flakes, carb., few pyrite grs.
								Core loss at base sst. as above.
	277.45				278		0.20	Sandstone: Same as above.
		0.20	25%				0.60	Core loss at base sst. same as above.
	278.75				279			Total core loss probably sst.
		3.05	Nil	Nil	280		3.05	

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DRILL-HOLE NO. **UAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	281.80				281			
281.80					282		0.15	Sandstone, Medium light grey N6 + Greyish Orange 104R7/4, hard, medium to coarse grain, subangular to sub rounded, Quartzitic, 79% quartz grain, poorly sorted
							1.35	Core loss probably sst/coal
	1.70		54%		283		0.20	Coal, Brownish black 54R 2/1, soft, blocky, pyritic, resins, sub vitreous.
					284		1.35	Claystone, medium dark grey N4, Semi hard, plant debris, coaly flakes, carb. fragments, wood pyritized, pyrite grains, silty; Sand % large increase towards base and gradually changes into sst.
284.80					285		0.80	Sandstone, light grey N7, fine grain, subangular to sub rounded, well sorted, thin carbonaceous clay bands, siderite nodules at base, loosely cemented, burrows.
			26%		286		2.25	Core loss, probably Sandstone, as above
					287			
287.70					288		0.70	Core loss, same as above.
			50%					Sandstone, same as above.
					289		0.70	Claystone, olive black 54R 2/1 + Medium grey N5
289.30					290		3.0	Semi hard, carb. plant debris, coaly parting pyrite grains, wood pyritized, slicken side, slightly silty, siderite nodules 0.10 cm.

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DRILL-HOLE NO. **WAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					291			
					292			
292.30					293		1.60	claystone, Medium light grey N6 + Greyish black N2, animal burrows,
		1.60	100%		294		0.30	claystone, Same as above.
293.90					295		0.80	Coal, Brownish black 5YR 2/1
					296		0.50	pyrite, Resins, sub vitreous.
		3.05	100%		297		0.40	Silty claystone, Olive black 5YR 2/1,
296.95					298		0.25	Semi hard, wood pyritized, carb. flakes,
					299		0.90	plant debris, pyrite grains, interclations of coaly bands, Resins.
		1.40	57%		300		0.80	Silty claystone, medium light grey N6,
298.35							0.60	Semi hard, pyrite grains, burrows, carb fragments, wood pyritized, leaf prints.
								Carbonaceous Shale, Olive black-5YR 2/1,
								laminated, 0.02 m. coaly bands, blocky + vitreous. Wood pyritized, coaly fragments
								plant debris, pyrite grains, Resins, leaf prints
								Silty claystone, medium light grey N6,
								Semi hard, pyrite grains, animal burrows
								filled with medium grain sandstone. plant
								debris, slickenside, carb. flakes, siderite nodules
								at base, silt % age increase towards base.
								Silty claystone, same as above..
								Core loss at base probably Silty claystone.
		2.10	100%					Same as above.
								Claystone, Olive black 5YR 2/1, Semi hard
								sticky, slickenside, siderite nodules,
								at places, carb. flakes, interclations of
								glauconitic sst from 298.85-299.15 (0.30)
								Silty at places.


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DRILL-HOLE NO **UAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
300.45	301.13				301		1.65	Claystone, Olive black SYR 1/1 + medium light grey N 6, Semi hard, coaly flakes, wood pyritized, resins, pyrite grains, plant debris, highly carb. in upper part. from 301.13-301.28=(0.15) intercalated sandstone, medium grain, subrounded, 70% qtz grain, well sorted
		3.05	100%		302		0.10	Carby shale, Brownish black, SYR 2/1 laminated, resins, pyrite grains, plant debris coaly flakes, pyrite grains.
					303		0.80	Coal, Brownish black, SYR 2/1, blocky, resins pyrite grains, sub vitreous.
					304		0.50	Carby. shale, Olive black SYR 2/1, laminated, wood pyritized, plant debris silty towards base resins, pyrite grains, coaly flakes, + partings.
303.10	303.50				304		1.10	Claystone, olive black SYR 2/1 + medium light grey N 6 Semi hard wood pyritized, coaly flakes, resins, plant debris, carb. fragments slightly silty at places.
		3.05	100%		305		0.28	Coal, brownish black SYR 2/1, blocky, resins, pyrite sub vitreous
					306		1.72	Claystone, same as above claystone intercalated glauconitic sandstone at base
306.55	306.55				307		1.45	Sandstone/siltstone intercalated, Brownish grey, SYR 4/1, olive grey SYR 4/1, semi hard sandstone is fine grain, sub angular, well sorted, black minerals, glauconite. 75% qtz grain, silt stone, pyrite grains, carb. fragments, resins
		3.00	100%		308		1.55	Sandstone. Light olive grey, SYR 6/1, medium light grey. N 6, loosely cemented fine grain, sub angular well sorted, glauconite, pyrite grains, carb. fragments, slightly clayey at places, animal burrows, 75% qtz grains
309.55	309.55				309		1.00	Sandstone, same as above.
309.55	309.55				310			

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DRILL-HOLE NO **WAK-4**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		1.00	41%		311		1.45	Core loss - probably sandstone. Same as above.
	312.00				312			T.D = 312.00.
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



P.35

Lithologic Log

for

Drill Hole

UAK-5

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DRILL-HOLE NO **WAK-5**

NON CORING

CORING

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
0.00					0		0.3	<b>ALLUVIUM:</b> very pale orange 10YR 8/2 weathered material derived from the country - rock is Laki L.st, approximately 100m N.E of D.hole <i>Calcareous silt and sand.</i> <b>LIMESTONE:</b> - Pale yellowish orange 10YR 8/6, cuttings of - Lime stone with few forams & Gypsiferous material, L.st is Chalky.
1.50	1.50				1		1.20	
					2			LIMESTONE: - Same as above.
3.00	3.00				3		1.50	<b>LIMESTONE</b> - Pale yellowish orange 10YR 8/6 & Grayish orange 10YR 7/4, Gypsiferous, contain very thin Gypsum veins, Hard & compact, Laki Arenaceous Limestone. Bivalve shells & Assilina
4.40	4.40	1.35	96%		4		1.35	
					5		0.05	CORE LOSS: - Probably at the bottom of the run
4.40					6		0.60	LIMESTONE same as above.
		0.60	24%		7		0.60	CORE LOSS.
6.87	6.87				8		1.87	<b>SHALE &amp; LIMESTONE/ INTERBEDDED</b> Dusky yellow 5Y 6/4, Limestone hard compact arenaceous, massive, shale is interbedded with L.st, and is thinly laminated, Gypsiferous.
8.30	8.30	1.43	100%		9		1.43	
8.30					10		0.18	<b>SHALE AND LIMESTONE/ INTERBEDDED:</b> Same as above <b>LIMESTONE SILTY:</b> - Medium gray N-5. Silty highly fossiliferous compact & slightly hard,
10.45	10.45	1.43	66%		11		1.72	
					12		0.25	CORE LOSS
					13			
					14			

R37

DRILL-HOLE NO. **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
10.45		2.55	83%		11		1.27	SHALE:- Dark gray N-3 Highly fossiliferous, Bivalve fossils abundant Interlaminated with fossils and silty material. Shale is slightly pyritic.
					12		1.28	LIMESTONE:- Medium gray N-5. Lime stone silty highly fossiliferous, Compact and slightly- hard. The bottom of the unit is shaly.
13.50	13.50				13		0.50	CORE LOSS:-
		2.80	100%		14			SHALE:- Dark gray N-3. Slightly hard and Compact, Pyritic & fossiliferous, consists of fine lamination of fine silt.
					15			
					16		2.80	
16.30	16.30				17		0.24	SHALE:- Same as above
		1.36	45%		18		0.94	LIMESTONE/SILTY/MUDDY:- Light bluish gray SB 7/1 Hard and Compact, highly fossiliferous and which forams and bivalves are very common.
					19			CORE LOSS:- Probably at the bottom of the run due to some loose material.
19.30	19.30				20		1.64	

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DRILL-HOLE NO. **MAK-5**

METING SHALE

METING LIMESTONE

CORE RECOVERY				WATER LOSS	DEPTH IN METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
28.75			3.00				1.83	SHALE:- Dark gray N-3 Hard & Compact. Contains lenses of silt and sidrite. Lower part is more fossiliferous - and muddy. Rooted at the middle of the unit, Pyritic at places, slickensided Grades into - Limestone.
	31.75						1.75	LIMESTONE:- Light bluish gray 5B 7/1 Hard Compact, Highly fossiliferous Slightly sandy (Areneaceous Limestone)
31.75			3.05				0.68	CLAYSTONE:- Dark gray - N-3. Consists of silt lenses & pyrite. Rooted, slicken- sided, slightly hard and Compact Grades into mud stone.
			100%				0.75	MUDSTONE:- Medium bluish gray 5B 5/1 slightly hard and compact, Highly fossiliferous (forams, Bivalves, Pelecypods) Mudstone is silty
	34.80						1.02	CLAYSTONE:- Same as above
34.80			3.05				0.35	MUDSTONE/SILTY:- Light gray 5Y 6/1 Silty, Pyritic, and fossiliferous.
			100%				1.35	CLAYSTONE:- Dark gray N-3. Hard Compact and sidritic, Pyritic, Rooted, and slickensided
	37.85						1.35	LIMESTONE:- very light gray N-8 slightly hard and compact, slightly sandy (ie Areneaceous Limestone) Burrowed - and silty

B40

DRILL-HOLE NO **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH (METRES)	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
37.85	40.90	3.05	100%		38 39 40			LIMESTONE ARGILLACEOUS Light gray N-7 to Greenish gray SG 6/1. Hard compact and highly fossiliferous, (e.g. Alvina, Assilina, & some Bivalves. Limestone is massive.
40.90	43.95	3.05	100%		41 42 43			LIMESTONE :- same as above
43.95	46.95	3.00	100%		44 45 46			LIMESTONE & CLAYSTONE INTERBEDDED:- Greenish gray SGY 6/1 Hard and Compact, highly fossiliferous claystone is slickensided. The bottom of the unit becomes more shaley & Grades into shale.

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DRILL-HOLE NO. **WAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
43.95							0.50	SHALE / CARBONECEOUS:- Brownish black SYR 2/4. Slightly hard, Compact, Layered, contains carby matter not coalified.
		3.05	100%		48			
	50.00				49			LIMESTONE & CLAYSTONE INTERBED- DED:- same as above (ie 43.95- 46.95)
					50		2.55	
50.00								LIMESTONE ARGILLACEOUS very light gray N8 to light olive gray SYG/1. Hard Comp- act fossiliferous, (Bivalves & forams) Patches & lenses of calcareous mud, chalky limestone with solution cavities.
		2.42	89%		51			
	52.70				52		2.42	
52.70							0.28	CORE LOSS LIMESTONE ARGILLACEOUS. Same as above
					53			
		3.05	100%		54			
					55			
55.75								
					56			

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DRILL-HOLE NO UAK-5

CORE RECOVERY				WATER LOSS	DEPTH IN METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
55.75	58.80	3.05	100%		56 57 58			LIMESTONE / ARGILLACEOUS Same as above.
58.80	60.75	1.45	74%		59 60			LIMESTONE ARG/LL: - very light gray N-8 to - Light olive gray 5Y6/1, slightly hard & compact and fossiliferous. Toward the bottom - Comparatively soft and slightly sandy.
60.75	62.15	1.30	92%		61			CORE LOSS: - Probably due to soft & sandy limestone CORE LOSS: - Probably due to the same above list. LIMESTONE very tight gray N-8 Hard Compact Arenaceous, highly fossiliferous, (Bivalves - Forams, Pelecypods Alveolina) Calcareous mud in the form of patches and bands observed.
62.15	65.20	3.05	100%		63 64 65			LIMESTONE: Same as above, But it is massive



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DRILL-HOLE NO. UAK-5

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
68.50	68.25	3.05	100%		68.50			LIMESTONE:- Same as above.
68.25	71.25	3.05	100%		68.25			LIMESTONE/CLAYSTONE/SHALE- INTER-BEDDED:- Greenish gray SGV 6/1 & very light gray N-8. Limestone highly fossiliferous, hard and compact, clay is compact and slightly hard, and slickensided shale is slightly crumbly and fossiliferous. The last 90cm of the unit is almost entirely limestone, which contains lenses and hard, calcareous mud.
71.25	74.30	3.05	100%		71.25			SHALE:- Medium dark gray N-4 to medium gray N-6, very slightly hard and compact. Carbonaceous material abundant, fossiliferous. At places little bit pyritic.
					73		1.72	SILTSTONE:- Medium light gray N-6. Hard compact & slightly resistant. Fossiliferous, layered, calcareous.
					74		0.77	LIMESTONE:- Light gray N-7. Hard compact, highly fossiliferous. Forams & Alveolites Ass. Not limestone is Arenaceous.
					75		0.61	

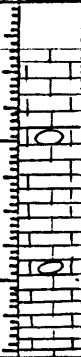
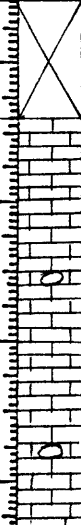

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DRILL-HOLE NO. **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
74.30					74			
					75		3.0	LIMESTONE / MUDSTONE INTERBEDDED Very light gray N-8 & Light olive gray SV61 Hard, Compact, Fossiliferous (Numulites & bivalves) Mudstone is slightly bit. Mudstone is calcareous, and fossilifer- ous, some fossils as observed in the limestone mentioned above.
					76			
					77			
77.30	77.30				78		3.0	LIMESTONE & MUDSTONE / INTERBEDDED Same as above.
					79			
					80			
80.30	80.30				81		3.0	LIMESTONE & MUDSTONE INTERBEDDED. Same as above.
					82			
					83			
83.30	83.30							

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DRILL-HOLE NO UAK-5

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
83.35	86.40	3.05	2.10		84		2.10	LIMESTONE:- very light gray N-8. Hard and compact, contains bands of mudstone calcareous, slickensided limestone is nodular.
	86.40				85		0.85	CORELOSS:- Probably at the bottom of the run, due to hard nodules of Limestone.
86.40	89.45	3.05	100%		87			LIMESTONE:- Same as above
89.45	92.45	3.00	100%		88		0.95	MUDSTONE CALCAREOUS:- Light bluish gray SB71. Hard compact, fossiliferous, (Forams & Bivalves) More fossiliferous towards the base. The last 0.10 m it becomes Carby shale, which is pyritized.
	92.45				89		2.05	SHALE/CARBY/SILTY:- Dark gray N-3 Carby material abundant, Pyritic, silty. Rooted at a place. Few black, blue ferrous mineral grains observed. Resinous at places. Slickensided. At places small silty nodules observed.
					90			

SONAHIRI MEMB. METING LIMESTONE

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DRILL-HOLE NO **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
92.45	95.50	3.05	100%		92 93 94 95		3.05	SHALE - carbonaceous, Dark gray N-3 Same as above, except last few cms which grades into silt-stone.
95.50	98.55	3.05	100%		96 97 98		3.05	SILTSTONE/SHALEY. Brownish black 5YR 2/1 Dark greenish gray 5GY 4/1, slightly hard and compact, Pyritic, Rooted, Carbonaceous, Resinous, Very fine layer of fine grained (FL) sand, few lenses of yellow very fine sand, slickensided.
98.55	99.55	3.0	89%		99 100 101		0.86	SILTSTONE - SHALEY Same as above.
99.55	101.55	2.00	89%		100 101		1.82	SANDSTONE - Dark gray N-3, Fine grained sand (F.L) 0.13 to 0.01. grains are transparent (clear sand) equigranular. Sub-rounded to rounded consist fine layers of carb. material. Few fine mineral grains of black, blue and brown are also observed. Resinous, and pyritic at bottom.
								CORE LOSS

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DRILL-HOLE NO **WAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
101.55					101			
	3.05	3.05	100 %		102		0.96	SILTSTONE AND SANDSTONE, INTERLAMINATED Brownish black - 5YR 2/1, Hard and compact Carby matter, pyritic patches at places, at one place siltstone nodules, layers of fine grained clear quartz sand. Slightly resinous.
					103		0.38	COAL - Brownish black - 5YR 2/1, very dirty coal, sandy, pyritic silty, resinous. Slickensided.
	104.60				104		1.71	UNDER CLAY - Med. dark gray N-4. Hard and compact, rooted, pyrite patches in few places, carbonaceous material, Slickensided, Silty.
104.60					105		1.30	SILTSTONE / Sandy, med light gray N-6 / light gray N-7, very fine grained sand bands in the lower part of the unit, whereas the upper part is more clayey. clay is sticky and pyritic at places Siltstone cross bedded, few specks of carby matter at the lower part of the run.
	3.0	1.70	56 %		106		1.70	
	107.60				107			CORE LOSS.
107.60					108			
	3.05	0.10	3.2 %		109		2.95	CORE LOSS
	110.65				110			SILTSTONE / Sandy Same as above.
					111			

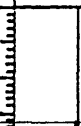


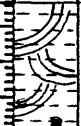
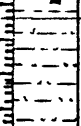
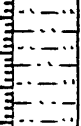
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DRILL-HOLE NO **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
110.65	3.05	0.12	3.9 %		110			
					111		0.12	<p>SANDSTONE / Silty Light gray n-7            Fine grained quartz abundant. Transparent to translucent, equigranular, subrounded to subangular, moderately sorted. Few <math>\frac{1}{2}</math> grains are of .5mm size. Cross bedded, hard and compact, slightly carbonaceous.</p>
					112		2.93	
	113.70				113			
								CORE LOSS. Probably due to loose sand.
113.70	3.05	Nil	Loss 100%		114			CORE LOSS
					115			
	116.75				116			
								CORE LOSS
116.75	3.05	Nil	Loss 100%		117			
					118			
	119.80				119			
					120			

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DRILL-HOLE NO. ~~WAK-5~~

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
119.80	122.85	3'05"	1'02"	33%	120		2'03"	CORE LOSS. Probably at the top of the run.
122.85	125.85	3'0	3'0	100%	121		1'02"	CLAYSTONE/SILTSTONE - INTER LAMINATED Medium gray N-5 TO med light gray N-6 Hard and compact, cross bedded pyritic, slickensided.
125.85	128.85	3'0	3'0	100%	123		3'0	SILTSTONE - Olive gray 5Y 4/1. Hard compact, slightly sandy, pyritic, slightly carbonaceous, small coal specks slickensided, Resinous. Sidrite nodules, very hard and compact.
128.85	130.00	3'0	3'0	100%	126		3'0	SILTSTONE - Olive gray 5Y 4/1 and light gray N-7 Hard and compact, slickensided. Pyritic, Rooted at places. Very fine sand in thin layers. At places cross bedded, very slightly carbonaceous, Resinous sparsely.
					129			
					130			

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DRILL-HOLE NO. **UAK-5**SONAHRI MEMBER  
\*  
LAKHRA FORMATION

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
128.85	131.00	3.05	100 %		129		3.05	<del>SILTSTONE.</del>
					130			same as above
					131			
131.90					132		0.20	CORE LOSS
							0.75	
	134.95	2.05	93 %		133		2.10	SILTSTONE - Same as above.
					134			LIMESTONE - Med: Light gray N-6 (upper part) Very light gray N-8 (Lower part) Hard and compact, Highly fossiliferous in the upper part, while the lower part less fossiliferous, chalky and weathered.
134.95					135		2.30	LIMESTONE - Same as above
	138.10	3.05	95 %		136			SILTSTONE - Med: Light gray N-6 Highly fossiliferous (at top and bottom) looks like fossil Hash. Fossils are mainly (Bivalves, Forams). Slightly pyritic at few places
					137		0.60	
					138		0.15	CORE LOSS



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DRILL-HOLE NO **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
138.0	141.05	3.05	100%		139 140 141		3.05	SILTSTONE / FOSSIL HASH INTERBEDDED Dark greenish gray 5G4/1 and med gray N-6 Siltstone fossiliferous (Bivalves and forams) Fossil shell fragments clustered at a places, generally filled in the burrows. The unit is grading into fossil hash at the end. Pyritic, siltensided. At place hard and compact sideritic nodules also observed.
141.05	143.70	2.65	75%		142 143		2.65	SILTSTONE / FOSSIL HASH INTERBEDDED Same as above.
143.70	143.70						0.05	CORE LOSS
143.70	146.70	3.0	100%		144 145 146		3.0	SILTSTONE / FOSSIL HASH INTERBEDDED Same as above.
146.70	149.0	2.30	100%		147 148 149		1.90	SILTSTONE - med: gray N-5 - Hard and compact, Pyritic, clayey Fossiliferous, siltensided, contains hard nodules and patches of siderite. Grades into limestone
							0.40	LIMESTONE - ARGILLACEOUS. Med. light gray - N-5, Hard and compact. Bivalves and forams, siltensided at places Grades into siltstone.

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DRILL-HOLE NO. UAK-55

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
149.0	152.05	3.05	3.05	100%	150 151 152		3.05	SILTSTONE/SANDY/CLAYEY. Med: dark gray N-4. Hard and compact, Fossiliferous, Silkensided, Pyritic and Sideritic, also contains calcareous clay nodules. Lower 0.60 m is more Fossiliferous and becomes Fossil Hash.
152.05	155.10	3.05	3.05	100%	153 154 155		1.39	LIMESTONE - Med: Light gray N-6. Crystalline and argillaceous, highly Fossiliferous (Forams, Alveolina and Assilina) Hard and compact, slightly pyritic at few places.
155.10	156.25	1.15	0.83	72%	156		0.83	SILTSTONE/FOSSIL HASH Olive gray 5Y4/1, slightly hard and compact, pyritic and clayey.
156.25	156.25				156		0.37	CORE LOSS - Probably at the bottom of the run.
156.25	159.25	3.0	2.75	91%	157 158 159		2.75	SHALE/Silty. Med: dark gray N-4, Hard compact, silty, Fossiliferous, few clay nodules calcareous.
					160			

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DRILL-HOLE NO **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
159.75					159			SHALE / Silty. Med: dark gray N-4 Same as above.
	3.05	3.05	100%		160		1.60	
					161		0.64	FOSSIL HASH / Silty. Dark greenish gray 5 & 4/1 Highly fossiliferous. Forams abundant.
	162.30				162		0.81	SHALE / SILTY. Med: dark gray - N-4. Hard and compact, slightly fossiliferous. (Bivalves and forams. slightly pyritic. Few small clay nodules
162.30								FOSSIL HASH / SILTY - same as above.
	2.20	2.20	100%		163		1.04	MUDSTONE / Silty. Med: gray - N-5 Silty, sandy - fossiliferous, pyritic Hard and compact. Bottom is more shaley, silty and fossiliferous.
	164.50				164		1.16	
164.50	80.0	80.0	100%		165		80.0	MUDSTONE - Med: light-gray. N-6 Same as above.
165.30					166			SANDSTONE / Silty. Med: dark gray N-11 Very fine grained sandstone Silty, clayey, fossiliferous, fossil shells mostly of bivalves. few forams. Pyritic at the end of run. Hard and compact Not calcareous. About 90% transparent quartz grains, sub-angular to sub-rounded, mostly grains are equigranular.
	3.05	3.05	100%		167		3.05	
	168.35				168			
					169			
					170			

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DRILL-HOLE NO. UAK-5

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
168.35	2.00	2.00	100%		169		2.90	SILTSTONE/clayey Med. dark gray N-4 TO Med. light-gray N-6 Hard and compact, fossiliferous (Bivalves shells) Forams at places. Pyritic and slitensided at places. Grades to very fine grained sandstone.
171.25	1.85	1.85	100%		172		1.85	SANDSTONE/Silly. Med. dark gray. N-4 Hard and compact, fossiliferous, slightly pyritic. Few clay small lenses. Grades into Fossil Host at the bottom (0.20) m Fossil shells mostly of Bivalves (Pelecypoda)
173.10	1.35	1.35	100%		174		1.10	LIMESTONE Silty. Light gray. N-7. Hard and compact highly fossiliferous, mostly forams and few bivalves or corals, gypiferous. Contact between LAKHRA and BARA Em. Pyritic Grades into Sandstone
174.45	3.0	3.0	100%		175		0.35	SANDSTONE/SILTY INTERLAMINATED med. gray N-5 Slightly hard, fine grained, fossiliferous, pyritic and silty. Bivalves fossil shells Qz-sand about 80% and Fe. mg mineral grains about 20%.
177.45					176			SANDSTONE Same as above.
					177			
					178			
					179			

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DRILL-HOLE NO **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
177.45					177			
	3.05	3.0	98%		178			SANDSTONE /silty/ clayey. Interlaminated. Med. light-gray N-6 very fine to fine grained sandstone, cross laminated, with silt and clay. Fossils very rare, hard and compact; slightly pyritic
					179			
	180.50				180			
								CORE LOSS
180.50					181			SANDSTONE /silty/ clayey. Interlaminated Same as above, except few clay lenses at the end of the run
	3.05	3.05	100%		182		3.05	
					183			
	183.55							
183.55					184			SILTSTONE - Dark gray SGV 41, medium hard, med; compact, sandy, clayey, sideritic, glauconitic, fossiliferous. Bivalves fossil shell fragments and forams, Carbonaceous specks present.
	3.05	2.65	86%		185			
					186			SANDSTONE. Greenish gray SGV 61, fine to med; grained, mostly sub-angular, poorly sorted, med; hard, med: compact, clayey and silty patches highly glauconitic, muddy. Fossil fragments, corals, specks rare
	186.60							
								CORE LOSS in SANDSTONE
					187			
					188			











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DRILL-HOLE NO. **WAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
18.60					186			
					187			
					188			
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DRILL-HOLE NO. **WAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
105.60	3.0	0.30	90%		196		0.30	CORE LOSS IN SANDSTONE
					197		2.75	SANDSTONE - Greenish gray 5G6/1, med to coarse grained sub-angular to sub-rounded, poorly sorted, slightly muddy, silty, glauconitic, rare fossil, sideritic.
					198		0.62	CLAYSTONE - Dark gray N-3, med. hard, compact, interlaminated fine sandy and silty layers, sideritic, coaly and conchy specks, pyritic and marconitic.
					199			CLAYSTONE - Interlamination of sand. Same as above.
					200		1.66	SANDSTONE - With alternate conchy shale layer. Dark gray N-3 and light gray N-2 fine to med., sub-rounded to sub-angular, moderately sorted, Fe, Mg. mineral grains, coaly and conchy speck, rare fossil, pyritic and marconitic, rare resin, sideritic.
					201		0.86	
					202		0.55	CORE LOSS IN SANDSTONE.
					203		0.55	CORE LOSS IN SANDSTONE.
					204		2.50	SANDSTONE - With alternate thin laminae and layers of claystone. same as above.
					205			

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DRILL-HOLE NO UAK-5

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
204.70	3.0	2.85	95%		204			
					205		2.85	CLAYSTONE - with sandy layers and laminae. Dark gray N-3, med. hard, compact, sandy sand grains fine to medium, sub-rounded, poorly sorted, coaly and carbonyl at places, pyritic, sideritic, burrows filled with sand. lower part more sandy, looks like flaser bedding in lower part.
207.70					206			
207.70	3.05	2.45	80%		207			
					208		0.15	CORE LOSS
					209		0.60	CORE LOSS
					210		0.36	SANDSTONE, with thin laminae and layers of claystone Dark gray N-3, med. hard, med. compact, sand grains fine sub-angular, sorted, carbonaceous, pyritic, sideritic.
					211		0.34	CLAYSTONE. Dark gray N-3, med. hard and compact. Carbonaceous, malleable, sideritic.
					212		1.75	SANDSTONE. with alternating layers of siltstone and claystone, med. light gray N-6 to dark gray N-3 med. hard and compact, fine grained, sub-rounded, well sorted, sideritic, fossiliferous.
210.75	3.05	3.05	100%		213		1.82	CLAYSTONE - med. dark gray N-4 to dark gray N-3 med. hard and compact, silty at places, sandy patches, sideritic, coaly and carbonyl specks, more coaly toward bottom, pyritic and calcareous patches present.
					214		0.30	SHALY COAL - Grayish black N-2, med. hard and compact shaly, pyritic, caps resin.
					215		0.83	COAL SEAM - Black N-1 to grayish black N-2. pyritic, resinous and non banded.
213.80					216			SILTSTONE - Dark gray N-3 to light gray N-6 Hard compact, clayey in the upper part, coaly, pyritic, pyritic and calcareous, sandy at bottom.
					217			
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DRILL-HOLE NO. **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
213.50					214		0.05	SILTSTONE. Same as above.
	3.0	1.10	46%		215		0.15	SANDSTONE - Mod: dark gray N-4. Fine to med. grained, sub-angular to sub-rounded, poorly sorted, slightly carbon- aceous, muddy, siderite. 65% to 70% quartz grains.
	213.50				216		1.60	CORE LOSS
					217		0.35	CORE LOSS
					218		2.30	SILTSTONE - mod: dark gray N-4 to Dark gray N-3. Hard compact, clayey, sandy patches, coaly and coaly flakes, variscite and pyrite, rare trace siderite.
	214.00		88%		219			
219.80					220		1.15	SILTSTONE. Same as above.
	3.05	3.05	100%		221			CLAYSTONE - interlaminated with siltstone and sandstone. mod: dark gray N-4 to Dark gray N-3. Hard compact, silty, sandy, carbonaceous at places coaly specks and laminae. Slightly pyritic at places.
	221.90				222		1.90	
					223			

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DRILL-HOLE NO UAK-3

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
222.00	3.05	0.50	16 1/2		223		0.50	<p>SANDSTONE Light-gray N-6 to med. light-gray N-7 Very fine to fine grained, quartz grains are sub-rounded, well sorted, glauconitic. Fe, mg. mineral grains. In the upper part thin laminae of clay. Siderite nodules at bottom.</p>
	225.75				224		2.55	
					225			
225.75	3.10	1.1			226			CORE LOSS
	228.00				227			
					228			
228.00	3.10	0.30	10 1/2		229			CORE LOSS
	231.25				230		2.70	
					231			
					232		0.30	

SANDSTONE / Muddy.

med. dark gray N-4, fine grained. sub-rounded  
moderately sorted, muddy, soft-low, friable,  
Fe, mg. mineral grains rare, one siderite  
module at bottom.

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DRILL-HOLE NO **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					231			
231.95	3.0	1.50	50%		232		1.50	SILTSTONE - Med: dark gray N-4 to dark gray N-3, Hard compact, sandy, sand grains very fine to fine, clayey patches, carbonaceous specks, rare pyrite, siderite nodules.
					233			
234.95					234		1.50	
234.95	3.0	3.0	100%		235		1.99	CLAYSTONE - Med: dark gray N-4 Hard compact, slightly sandy, at places silty, coaly and carb. specks, pyritic and marcasite present.
					236			
237.95					237		1.01	SILTSTONE - Med: light gray N-6 Hard and compact, sandy & granular to fine, clayey to warts lower part.
241.05	3.05	2.35	77%		238		0.70	CORE LOSS
					239		2.35	SILTSTONE - Interlaminated with claystone and sandstone. Med: dark gray N-4 to Med Light-gray N-6, Hard compact, interlaminated claystone and sandstone, coaly flakes and specks, marcasite and pyrite. lower part is more clayey.
244.0					240			
					241			

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DRILL-HOLE NO **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
241.0					241		1.15	SILTSTONE - Same as above
	3.05		37%		242		1.90	CORE LOSS
	244.05				243			
244.05					244		0.48	SILTSTONE - Same as above
	3.05	5.63	85%		245		1.05	CLAYSTONE - Olive gray silt to med. dark gray, hard compact, silty, slightly sandy, carbonaceous specks and patches at places. Buried, bytite and micaite.
	247.10				246		1.07	SILTSTONE - Carbonaceous - Dark gray N-3 to grayish black N-2, interlaminated clay and carbon layers, with one coal layer streaking in. Sand grains very fine to fine, sub-angular, sub-rounded. Sorted poorly, increasing towards bottom.
					247		0.45	CORE LOSS
247.10					248		0.66	CLAYSTONE - Dark gray N-3, hard compact, silty, slightly sandy, more clay and carbon specks, bytite, mica, carbonaceous.
	3.05	1.50	49%		249		0.84	SILTSTONE - Med. light gray N-6 to dark gray N-3, interlaminated with sand, med. hard med. compact, carbonaceous, sand grains very fine to fine, sub-rounded, poorly sorted. Glauconite pellets, Fe. Mg. mine. at grains. more sandy towards base.
	250.15				250		1.51	CORE LOSS

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DRILL-HOLE NO **WAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
250.15	3.0	250.60	20%		251		2.40	CORE LOSS.
					252			SANDSTONE - med. dark gray N-4, very fine med. subangular to sub-rounded, poorly sorted, muddy and carbonaceous.
					253		0.12 0.08 0.10	SHALE - carbonaceous, med. dark gray N-4, med. hard, compact, coaly & carby patches and specks.
					253		0.30	COAL - grayish black N-2 to black N-1. Non banded, pyritic, marcescent, resinous vitreous patches.
					253		0.30	SILTSTONE - med. dark gray N-4, Hard compact - sandy, coaly and carby specks, rare pyrite, silty, sandy at base.
253.15					254		0.70	CORE LOSS
	3.05	254.05	77%		255		2.35	SILTSTONE - Med. dark gray N-4 to med. light gray N-6, Hard compact, clayey in the upper part, slightly sandy, slightly carbonaceous in the upper half, pyritic and marcescent.
	254.20				256			
255.15					257		0.50	SILTSTONE - same as above coarsening down to very fine sandstone.
	3.0	256.15	55%		257		1.15	SANDSTONE - med. light gray N-6 to light gray N-7 very fine, well sorted, hard compact, slightly silty, coaly partings, marcescent.
	256.20				258		1.35	CORE LOSS.
					259			
					260			

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DRILL-HOLE NO. ~~UAK-5~~

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
259.22	260.5	11/2			260			CORE LOSS
	261.25				261			
	262.25				262			
262.25	264.0	1 1/4	3 1/2 %		263			SANDSTONE. Med: dark gray N-4 to pinkish gray 5+ SL, med: 7 coarse grained, sub-angular, well sorted, rare glauconite, very hard 1-2" for part, white grains unidentified present
	265.0				264			
	266.0				265			
266.0	267.0	1 1/2			266			CORE LOSS
	268.0				267			
	269.0				268			
	270.0				269			
	271.0				270			

DRILL-HOLE NO **WAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
268.30	270.00	NIL			269 270 271		3.00	CORE LOSS
270.00	272.45	0.60	79%		272 273		1.45	CORE LOSS.
272.45	274.45	0.50	55%		274 275		0.50	SANDSTONE - Light gray N-7 to very light gray N-6, fine to med. grained, sub-angular to sub-rounded, poorly sorted, very hard, well compact, rare glauconite, iron, mica, and grains, rare. Quartz about 90%.
274.45	275.40	0.10	73%		275 276		0.10	SANDSTONE. Light gray N-7 to pinkish gray Sx8. Med to coarse grained, sub-angular to sub-rounded, poorly sorted, hard compact. Rare glauconite, few to med. black grains, about 90% quartz grains, iron like quartz grains.
275.40	277.50	NIL			277 278		2.10	CORE LOSS SANDSTONE - Same as above, except rare carbonaceous material.
								CORE LOSS

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DRILL-HOLE NO. **4AK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
277.50	280.55	NIL			277.50 278 279 280			CORE LOSS - Probably in loose sand.
280.55	283.60	NIL			281 282 283			CORE LOSS.
283.60	286.65	NIL			284 285 286			CORE LOSS
					287			



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DRILL-HOLE NO. WAK-5

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
295.32	0.58	0.17	29%		295		0.17	CLAYSTONE - Light gray N-7. Hard and compact. Silty sandy and burrowed. Burrows filled with gty sand.
295.80					296		0.41	CORE LOSS
					296		0.47	CLAYSTONE - Med: gray N-5 to md light gray N-6. med hard med compact. Coaly and earthy, pyritic and marconite, rooted, siderite more coaly in lower part.
					297		0.24	COAL SEAM - D Grayish black N-2 to black N-1 non banded, pyritic
					297		0.3	UNDER CLAY - med gray N-5 to med light gray N-6. med hard med compact. Coaly and earthy specks
	3.0	3.0	100%		297		1.02	COAL SEAM - D1 Grayish black N-2 to black N-1 pyritic, rare resin
					298		0.30	UNDER CLAY - Med light gray N-6 med hard, med compact. Coaly and earthy specks, marconite & rooted.
	298.80				298		0.19	SHALY COAL - Brownish gray N-2 to N-3 grayish black N-2 shaly pyritic
					298		0.42	UNDER CLAY - Light gray N-7 to med light gray N-6. med hard compact. Silty. Sandy. Coaly. specks & flakes pyrite and marconite.
299.80					299			SANDSTONE. Silty / Muddy. Med: dark gray N-4 to light gray N-7. very fine to fine grained sandstone. inter laminated and cross laminated, with siltstone and claystone. Quartz grains very fine to fine, about 80% mostly equigranular, moderately sorted. Translucent to translucent. Sandstone hard, compact. Slightly coarser and more calcareous at places.
	301.80				300		3.0	
					301			
301.80					302		0.15	SANDSTONE - Light gray N-7 to med: gray N-5. Fine to medium grained. Sub angular, poorly sorted, clayey and silty patches. glauconitic. Qz about 80%.
	304.85				303		2.90	
					304			CORE LOSS
					305			


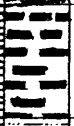
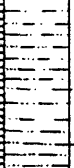

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DRILL-HOLE NO. **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
304.85	307.85	NIL			305		3.0	CORE LOSS
					306			
					307			
					308		0.52	SANDSTONE - Pinkish gray SYR 8/1, To yellowish gray SYR 8/1, med to coarse grained, sub-rounded, sorted very hard and well compact; quartzitic. Fe-Mg mineral grains present; quartz about 80%.
					309		1.08	CLAYSTONE - med. gray N-5 to olive gray SY 4/1, med hard med compact, silty, slightly sandy, coaly and carby. Flakes rare, marcanite and pyrite rare. Siderite.
					310		1.45	SANDSTONE - Med dark gray N-4 to Dark greenish gray SY 9/4/1, very fine to fine, sub-angular to sub-rounded, moderately sorted, silty at places slightly carbonaceous at places.
					311		0.17	CLAYSTONE - Dark gray N-3 to med gray N-5, med hard med compact, carby, thin coaly layers, marcanite and pyrite, burrowed.
					312		1.69	SILTSTONE - Light bluish gray SB 7/11. Hard compact clayey, slightly sandy at places, rare coaly flakes, marcanite and pyrite rare.
					313		0.43	COAL SEAM - Grayish black N2 to black N-1. Pyritic and resinous, non banded.
					314			

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DRILL-HOLE NO. **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
313.95					314		0.95	COAL SEAM. - Grayish black. N-2 to black. N-1 Pyritic and resinous, non banded.
	310.5	310.5	100%		315		0.80	SHALE (carb.) Dark gray. N-3 to grayish black N-2. Hard compact, calcy, vitreous patches present Slightly sandy at places, pyritic and resinous at places
	317.0				316		1.30	SILTSTONE - med. dark gray. N-4 to med gray N-5 Hard compact sandy, rare coaly and pyritic patches, more sandy towards bottom.
317.0					317		0.33	SANDSTONE - Silty Med. gray N-5 to light gray N-7, very fine to fine grained, sub-angular to sub-rounded poorly sorted, silty, rare calc. mineral grains, sil about 60%.
	320.05				318			
		0.33	10.8%		319		2.72	CORE LOSS
	320.05				320			
320.05					321			
	310.5	NIL			322		3.05	CORE LOSS.
	323.10				323			

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DRILL-HOLE NO. **WAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
323.10	325.05	1.75	57%		324		1.75	SANDSTONE - with interbedded claystone Med. gray N-5 to light olive gray Sx6/1 Very fine to fine grained, sub-rounded well sorted, interlayered clayey unit, at- places very hard sandstone, silty nodules, coaly and carb. specks rare.
	326.15				325		1.30	
					326			
326.15	328.05	0.15	4.9%		327		0.15	SANDSTONE - Light gray N-7 to pinkish gray Sx8/1, med. to coarse, sub-angular well sorted, very hard well compact, with silty matrix, Fe-Mn mineral grains present. Rare glauconite Quartz about 60%.
	329.20				328		2.90	
					329			
329.20	330.0	N/A			330			CORE LOSS
	332.20				331		30	
					332			
					333			

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DRILL-HOLE NO. **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
332.20	335.25	0.55	18%		333			<p><b>CORE LOSS</b></p> <p><b>SANDSTONE</b> - Light gray N-7 to med. dark gray N-4 very fine to fine, sub-angular to sub-rounded moderately sorted, slightly silty. Thin coaly laminar present Fe-mg grain present.</p> <p><b>CARBY SHALE</b> - Dark gray N-3 to grayish black-2. Coaly and carby flakes and layers burrowed, pyrite and marcasite.</p> <p><b>CLAYSTONE</b> - Med. dark gray N-4, med. hard med compact, carbonaceous, pyritic, plant imprints, marcasite.</p> <p><b>CLAYSTONE</b> - Same as above grades to very fine sandstone.</p>
					334			
					335		0.15 0.15 0.25	
					336		0.48	
335.25	338.30	0.48			337			<p><b>CORE LOSS in sandstone</b></p>
					338			
338.30	341.35	0.55	100%		339		0.15	<p><b>SANDSTONE</b> - Light gray N-7 to white N-9 med. to coarse, sub angular to sub-rounded poorly sorted, rare marcasite, calcareous quartz about 90%.</p> <p><b>SILTSTONE</b> - Dark gray N-3, med. hard med compact, coaly and carby specks, pyrite and marcasite, plant impressions, lower 0.95 metre has interlayered sandstone and siltstone.</p>
					340		0.90	
					341			
					342			

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DRILL-HOLE NO. **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
341.35	344.40	2.33	77%		342		2.33	SANDSTONE - With laminae and layers of siltstone and claystone. Light gray N-7 to med. gray N-5, very fine to fine, sub-angular to subrounded, well sorted, interlaminated with claystone and siltstone, carbonaceous material at bottom.
					343			
	344.40				344	X	0.38	CORE LOSS
344.40	347.45	0.20			345		0.20	SANDSTONE - With laminae and layers of siltstone and claystone - Same as above.
					346		0.25	
	347.45				347			CORE LOSS
347.45	349.75	2.30	0.87		348		1.33	CORE LOSS
					349		0.60	
	349.75						0.27	SANDSTONE - Dark gray N-3, med. to coarse grained, sub-rounded, poorly sorted, muddy slightly carbonaceous
								SHALY COAL. Grayish black N-2 to brownish black SYR 2/1, Pyritic, marcasite, interlayered with fine sand.
349.75	350.50	0.75	0.75		350		0.75	SILTSTONE - Med. dark gray N-4, med. hard compact, sandy and clayey, pyrite and marcasite, rooted.
					351			

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DRILL-HOLE NO. **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
350.50	353.55	3.05	100 %		351		1.70	SILTSTONE. Same as above. Siderite nodules present.
	353.55	3.05	100 %		352		1.02	SHALE (carb) - Dark gray. N-3 to brownish black SYR 2/1, silty and slightly sandy at places, coaly and carb, marcasite and pyrite, at places highly carbonaceous.
	353.55	3.05	100 %		353		0.28	SILTSTONE - Dark gray. N-3, med. hard med. compact, pyritic, marcasite, coaly and carb specks.
353.55	358.60	3.05	100 %		354		0.90	SILTSTONE - Med. dark gray N-4, hard, compact slightly sandy.
	358.60	3.05	100 %		355		0.68	SANDSTONE - Med. gray N-5 to med. light gray N-6, very fine to fine, few very coarse grains (.5 mm), sub-rounded, poorly sorted, coaly and carb specks resinous, at places silty patches.
	358.60	3.05	100 %		356		0.63	SILTSTONE - Med. light gray N-6, med. hard, med compact, marcasite, slightly sandy at places.
	358.60	3.05	100 %		357		0.92	CLAYSTONE - Light gray N-7, med hard med compact slightly carbonaceous at bottom, shken sides! siderite nodules at places.
356.60	359.65	3.05	62 %		357		0.10	SHALY COAL - Grayish black. N-2 to brownish gray SYR 4/1, coaly and carb patches prominent. plant imprints shken sided, pyrite and marcasite.
	359.65	3.05	62 %		358		0.75	UNDER CLAY - Med. light gray N-6, med hard, med compact, sorted, shken sided, pyritic marcasite slightly sideritic.
	359.65	3.05	62 %		359		1.15	SANDSTONE - Med. light gray N-6, fine to med. grained, sub-angular to sub-rounded, moderately sorted, coaly and carb specks, slightly pyritic + marcasite.
	359.65	3.05	62 %		360			CORE LOSS.



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DRILL-HOLE NO. WAK-5

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					359			
359.65					360			
	3.05	NIL	0%		361			CORE LOSS
	362.70				362			
362.70					363		0.10	SANDSTONE (Gritty) Med. gray N-5. Fine, gritty, sub-angular to sub-rounded, few very coarse gritty grains, silty, poorly sorted, transparent to translucent. Few yellow coloured quartz grains.
	3.15	0.85	27%		364		0.35	
	365.75				365		2.20	SANDSTONE - Med. light-gray N-6. Fine to med. grained sub-angular to sub-rounded, moderately sorted, slightly carbonaceous, Fe. Mg mineral grains.
365.75					366			CORE LOSS
	3.25	NIL	0%		367			
	368.80				368			CORE LOSS.
					369			

B76

DRILL-HOLE NO. **4AK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
368.80	371.80	NIL	0%		369 370 371		3.0	CORE LOSS
371.80	374.80	1.85	61%		372 373		1.85	SANDSTONE - with interlayered silt and clay. Pinkish gray SYR 8/1 TO Med light gray N-6, med to coarse grained, sub-angular to sub-rounded, poorly sorted, silty and clayey layers, coaly specks and flakes rare, coarser towards bottom.
374.80	377.80	NIL	0%		374 375 376 377		1.15 3.0	CORE LOSS in sandstone.
					378			

P.77

DRILL-HOLE NO. **UAK-5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
377.80	380.80	1.20	40%		378 379 380		1.10	SANDSTONE - med: dark gray N-4, med: to coarse grained, sub-angular to sub-rounded, moderately sorted, coaly and carb layers near bottom pyritic and marcanitic.
								SILTSTONE - med: light gray N-6, med: hard med: compact, sandy, clayey, rare carbonaceous material, burrowed.
								CORE LOSS
380.80	382.85	2.05	100%		381 382		2.05	SILTSTONE. Same as above.
382.85	385.90	3.05	100%		383 384 385		2.05	SILTSTONE - First sixty centimeter is of light-bluish gray SYR 4/1, medium hard, med compact, grades to sandstone, more clayey.
							1.10	SANDSTONE - med: light gray N-6, fine to med: grained, sub-angular to sub rounded silty.
					36 387			

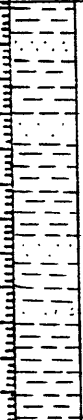
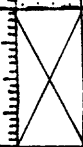
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DRILL-HOLE NO. ~~WAK-5~~

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
385.90	386.90	NIL	0%		386		1.0	CORE LOSS in sandstone.
386.90	387.90				387		0.23	CORE LOSS in sandstone.
387.90	389.95	2.82	92%		388		1.78	SANDSTONE - Med: gray N-5 to med light-gray N-6, fine to medium, sub-angular to sub-rounded poorly sorted, flaser bedding, silty and clayey.
					389		1.04	CLAYSTONE - Med: light gray N-6, to brownish gray 5YR 4/1, sandy, sand grains are fine to med: sub-angular to sub-rounded moderately sorted, Fe-Mg grains present - silty layers are slightly carbonaceous.
389.95	392.95	3.0	100%		390			SANDSTONE - with inter layered claystone and siltstone.
					391			Med: gray N-5 to brownish gray 5YR 4/1, fine to med: grained, sub-angular to sub-rounded, poorly sorted, glauconitic, green coloured olivine grains also present.
					392			Fe-Mg mineral grains observed.
392.95	395.95	3.0	100%		393		3.0	SANDSTONE - With inter layered claystone and siltstone.
					394			Med: gray N-5 to brownish gray 5YR 4/1, fine to med: grained, sub-rounded to sub-angular, moderately sorted, cross bedded and flaser bedding, glauconitic, Fe-Mg mineral grains.
					395			

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DRILL-HOLE NO. **WAK5**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
395.95	399.0	3.05	100 %		396 397 398			CLAYSTONE With inter layering of siltstone and sandstone - Med: gray - N-5 to Med: dark gray - N-4, and brownish gray 5YR 4/1, med: hard, medium compact, thin laminae of sandstone and siltstone. Sand grains are fine to medium, sub angular to sub rounded poorly sorted, ferromagnesium grains, glauconitic, slightly carbonaceous.
399.0	400.0	NIL			399 400			CORE LOSS in claystone with sandstone layers.
								Total depth = 400 meters.

P. 80

Lithologic Log

for

Drill Hole

UAK-6

R81

DRILL-HOLE NO UAK-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
0.0								Alluvial cover, pinkish grey, sand & clay with some forams. (5YR 8/1)
	2.00				1		2.00	
2.00					2			Alluvium
	4.00				3		2.00	Pinkish grey, sandy clay (5YR 8/1)
4.00					4			Alluvium (5YR 8/1)
	6.00				5		2.00	Clay, pinkish grey, sticky, sand is fine to medium grained with some ferruginous grains
6.00					6			Clay, dark moderate yellowish orange (10YR 5/4) and sticky with base fissile
	8.00				7		2.00	
8.00					8			Clay, dark yellowish orange (10YR 6/6) highly sticky, slightly silty
	10.0				9		2.00	
					10			
					11			
					12			

NON CORING

P82

DRILL-HOLE NO **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
10.0					11		2.0	Limestone, Sandy, moderate yellowish brown (10YR 5/4) with minor claystone
12.0	12.0				12			
12.0					13		2.0	Claystone, sandy, pale yellowish orange (10YR 8/6) with some coarse sandstone grains.
14.0	14.0				14			
14.0					15		2.0	Sandstone, calcareous, greyish orange with some clay.
16.0	16.0				16			
16.0					17		2.0	Sandstone, calcareous Same as above
18.0	18.0				18			
18.0					19		2.0	Claystone sandy, moderate yellowish brown, calcareous (10YR 5/4)
20.0					20			
					1			
					2			

NON CORING



R83

DRILL-HOLE NO. **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
20.0					21		2.0	Clay, sandy, light-brown (5YR 5/6) sticky with some <i>quartz</i> particles.
22.0	28.0				22			
24.0					23		2.0	Clay, slightly sandy, light-brown (5YR 5/6) sticky with some <i>passenger</i> material.
26.0	30.0				24			
28.0					25		2.0	Claystone, slightly sandy with some hard silty nodules. (5YR 5/6)
30.0					26			
32.0					27		2.0	Claystone, greyish orange pink (5YR 7/2) slightly sandy and calcareous.
34.0					28			
36.0					29		2.0	Slate, medium grey, (N5), slightly sandy with some hard calcareous nodules too.
38.0					30			
40.0					1			
42.0					2			

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DRILL-HOLE NO. **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
30.0					31		2.0	Claystone, medium dark grey (N4) slightly silty and calcareous
38.0	39.0				32		2.0	Claystone, olive grey; olive grey (5Y 4/1) slightly sandy with some minor carbonaceous contents slightly calcareous
40.0	44.0				34		5.0	Claystone, dark yellowish orange (10 YR 6/6) to dark greenish grey (5G 4/1), rare carbonaceous flakes
46.0	46.0				36		2.0	Claystone, dark greenish grey (5G 4/1), rarely sandy
48.0	50.0				38		2.0	Claystone, dark grey (N3) with minor carbonaceous flakes
50.0					40			

NON CORING

R85

DRILL-HOLE NO. **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
40.0					1		2.0	Limestone, dark grey (N4), With coarse sandy grains and silty clay. Fossiliferous.
42.0	42.0				2		2.0	Limestone, medium dark grey (N4), sandy, with corals, flakes and forams.
44.0	44.0				4		2.0	Limestone, medium dark grey (N4), highly fossiliferous, ferruginous grains observed
46.0	46.0				6		2.0	Limestone - Dark greenish gray (5G 4/1), slightly sandy, forams present
48.0	48.0				8		2.0	Sandstone - olive gray (5Y 3/2), calcareous, clayey limestone cuttings present, ferruginous grains observed
50.0					9			
					1			
					2			

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DRILL-HOLE NO. **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
50.0					51		2.0	Claystone - Greenish gray (5G 2/1), carbonaceous shaly flakes and partings present, slightly sandy and ferruginous.
52.0	50.0				52		2.0	Claystone - same as above
54.0	52.0				53		2.0	
54.0	54.0				54		2.0	Claystone - Greenish black (5G 2/1), silty, carby shale flakes and partings present, pyrite grains present sandy too.
56.0	54.0				55		2.0	
56.0	56.0				56		2.0	Sandstone - Dark greenish gray (5G 4/1), fine to coarse grained, sub-angular to sub-rounded, calcareous, black unidentified partings present, carby specks observed
58.0	56.0				57		2.0	
58.0	58.0				58		2.0	Sandstone - Same as above - with minor claystone
60.0	58.0				59		2.0	
	60.0				60			
					1			
					2			

R87

DRILL-HOLE NO. **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
60.0					61		2.0	Sandstone, dark greenish grey (5Y 4/1), with some silty clay.
62.0	62.0				62			Sandstone with claystone, dark greenish grey (5Y 4/1) with minor carbony flakes
					63		2.0	
64.0	64.0				64			Sandstone, Olive grey (5Y 4/1) fine to medium grained, subangular to angular grains, slightly calcareous.
					65		2.0	
66.0	66.0				66			Sandstone, Olive grey (5Y 4/1) fine to coarse grained, calcareous with minor clay contents.
					67		2.0	
68.0	68.0				68			Sandstone, Olive grey (5Y 4/1) fine to coarse grained, with some claystone and slightly fossiliferous
					69		2.0	
70.0	70.0				70			
					71			
					72			

R88

DRILL-HOLE NO. **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
70.0					71		2.0	Claystone, brownish grey (5YR 4/1) slightly sandy with some coarse flakes
72.0	72.0				72			
72.0					73		2.0	Sandstone, Olive grey (5Y 4/1) fine to medium grained and subangular grains, with clayey contents
74.0	74.0				74			
74.0					75		2.0	Claystone 55%, Sandstone 45% Olive grey (5Y 4/1)
76.0	76.0				76			
76.0					77		2.0	Claystone 70%, Sandstone 30% Olive grey (5Y 4/1)
78.0	78.0				78			
78.0					79		2.0	Claystone, Olive grey (5Y 4/1) Sandy with fine grains of sand
80.0					80			
					1			
					2			

R89

DRILL-HOLE NO. **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
80.0					81		2.0	Claystone, olive grey (5Y 4/1) Sandy with mostly fine grains.
82.0	82.0				82		2.0	Claystone, brownish grey (5YR 4/1) Silty and sandy with some Carbo- naceous flakes
84.0	84.0				84		2.0	Claystone, olive grey (5Y 4/1) Slightly silty and calcareous with some fossils.
86.0	86.0				86		2.0	Claystone, olive grey (5Y 4/1) Silty with carb. flakes.
88.0	88.0				88		2.0	Claystone Same as above
90.0					90			
					91			
					92			

NON CORING

P.90

DRILL-HOLE NO

WAK-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
90.0					91		2.0	Sandstone, medium grey (N5) clayey, sand grains are subangular to angular, mostly coarse grained slightly calcareous and fossiliferous
92.0	92.0				92			
					93		2.0	Claystone, medium dark grey (N4), sandy with medium to coarse subangular to subrounded grains. minor carb. flakes and moderately fossiliferous
94.0	94.0				94			
					95		2.0	Limestone 60% Claystone 40% medium light grey to very light grey (N6-N8), with minor carbonaceous flakes and slightly fossiliferous
96.0	96.0				96			
					97		2.0	Limestone, 35% Claystone 40% Sandstone 25% medium grey (N6). Sand grains are mostly subangular to fine to medium. with rare carb. flakes. pyrite grains and moderately fossiliferous.
98.0	98.0				98			
					99		2.0	Limestone 45% Clay, sandy 55% medium grey (N6), Sand grains are fine to medium. some carbonaceous flakes and fossiliferous
100.0					100			
					1			
					2			

NON CORING



891

DRILL-HOLE NO UAK-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
100.0								Claystone, medium dark grey (N4) Sandy with medium grain size with some carbonaceous flakes and calcareous.
102.0	102.0				2		2.0	Sandstone, medium light grey (N6), slightly clayey, sand grains are fine to coarse and mostly subangular, rarely fossiliferous.
104.0	104.0				4		2.0	Limestone 50% Claystone 30% Sandstone 20%, medium light grey (N6), sand grains are subrou- nded, pyrite grains and carbonaceous flakes observed
106.0	106.0				6		2.0	Same as above
108.0	108.0				8		2.0	Same as above
110.0	110.0				10			

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DRILL-HOLE NO **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
110.0					1		2.0	Limestone, light grey (NT) Clayey, with some carbonaceous flakes and fossiliferous. slightly sandy.
112.0	112.0				2		2.0	Limestone, Light grey (NT)  Same as above
114.0	114.0				4		2.0	Limestone, light grey (NT) slightly argillaceous with some carbonaceous flakes bearing pyritic grains rarely fossiliferous.
116.0	116.0				6		2.0	Limestone light grey (NT), slightly clayey and sandy. pyritic and fossiliferous.
118.0	118.0				8		2.0	Limestone, light grey (NT)  Same as above.
120.0					0		2.0	

P.93

Form 3a

DRILL-HOLE NO. **UAK-60**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
120.0							2.0	Limestone, light grey (N7) Silty, with some coarse grained sand carbonaceous flakes, pyrite grains and ferruginous inclusions
122.0							2.0	Claystone, medium light grey (N6) silty with minor limestone contents, slightly fossiliferous
124.0							2.0	Claystone, medium light grey (N6) Same as above
126.0							2.0	Claystone, medium grey (N5) With minor sandstone, sand grains are medium to coarse mostly subrounded. It is calcareous.
128.0							2.0	Claystone, medium grey (N5) Sandy, sand grains are medium to coarse and subangular. It is calcareous and slightly fossiliferous.
130.0								

P.94

DRILL-HOLE NO. **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
130.0								Claystone 65% Sandstone 35% medium grey (N5) Sandstone is med. li Coarse grained with subangular to angular grains Calcareous and pyritic
132.0								Claystone 60% Sandstone 40% medium grey (N5) Sand is fine to coarse grained which are mostly subangular. It is calcareous with minor Carby flakes
134.0								Sandstone 65% , Claystone 35% light grey (N7) , Sand is fine to coarse with angular grains , It is calcareous, fossiliferous with bone pyrite grains
136.0								Claystone 60% Sandstone 30% Limestone 10% medium light grey (N6) Calcareous and slightly fossiliferous
138.0								Claystone 45% Sandstone 55% medium grey (N5) , Sandstone is fine to coarse grained , Calcareous to
140.0								

R95

DRILL-HOLE NO. WAK-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
140.0					1		2.0	Sandstone 60%, Claystone 40% medium grey (N5), sand is medium to coarse grained with subangular grains.
142.0					2		2.0	Sandstone 70% Claystone 30% medium light grey (N6), sand is coarse grained, rusty brown. feruginous grains.
144.0					3		2.0	Claystone 75%, Sandstone 25% brownish grey (5YR 4/1), with hard calcareous fragments, pyrite grains containing forams.
146.0					4		2.0	Claystone 70%, Sandstone 30% dark grey (N3), sand is coarse grained with subangular grains slightly calcareous with minor carbonaceous flakes.
148.0					5		2.0	Claystone 80%, Sandstone 20% olive black (5Y 2/1), with some hard pieces of limestone, contain- ing carbonaceous flakes and pyrite grains.
150.0					6			
					7			
					8			
					9			
					10			

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DRILL-HOLE NO UAK-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
150.0							0.58	Claystone, Olive black 5 1/2, is dark grey (N3) with pyritic grains and coaly flakes.
150.58	150.58						0.08	Siltstone, medium grey (N5), hard, compact, cherty and calcareous
							0.32	
					151		0.22	
151.20	151.20						0.50	Core Loss Sandstone?
								Shale (Carbonaceous), dark grey (N3) to greyish black (N2), medium hard, compact, coaly flakes and muscovite specks.
		2.35	97.9 %		152			Claystone (silty), med. dark grey (N4), hard, compact coaly flakes with pyritic grains.
							1.85	Siltstone (clayey), med. grey (N5) hard, compact sandy at places, burrowed, minor coaly flakes with some siderite nodules.
153.60	153.60						0.08	Siltstone same as above.
							0.10	
154.25	154.25				154		0.20	Shaly coal, dark grey (N3) to greyish black (N2), highly resinous & pyritic.
								Coal seam UAK-6-1, greyish black N2 to olive black 5 1/2, Non banded & pyritic.
		3.0	100 %		155			Siltstone/Claystone, medium grey (N5) hard, compact, coaly flakes and more sandy towards base.
					156			
					157			
157.25	157.25						0.65	Core Loss Sandstone
		2.40	78.6 %		158			Sandstone, medium grey (N4), with alternate layers of siltstone and claystone. Some carbonaceous specks observed, more silty towards base.
					159		2.10	
					160			Siltstone, medium grey (N4), hard, compact bedded with coaly flakes.
160.30	160.30						0.30	

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DRILL HOLE NO UAK-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
160.30							0.30	Sandstone, light grey (N7), very fine to fine grained, soft, loose, friable with subrounded grains.
					161		1.80	Core Loss Sandstone
		1.25	40.9 %		162		0.20	Sandstone with alternate siltstone, light grey (N7) to med. dark grey (N4), sandstone is fine grained with subrounded grains, some coaly flakes
					163		0.75	Claystone with alternate sandstone laminae, med. dark grey (N4), med. hard, med. compact with some coaly flakes.
163.35					164		2.30	Core Loss
		0.70	23.3 %		165		0.70	Claystone with alternating sandstone and siltstone, dark grey N3 to N5, with some coaly contents & resinoids.
166.35					166		1.0	Siltstone, medium dark grey (N5) to dark grey (N3) with alternate layers of claystone clayey towards base. It is med. hard & med. compact.
		1.88	33.0 %		167		0.88	Core Loss
168.23					168		0.52	Claystone, med. dark grey (N4) to dark grey (N3) silty at places, medium hard, medium compact with some siderite nodules, sandy at places
168.75		0.52	100 %				0.40	Claystone, dark grey (N3), with some silty patches and some carbonaceous flakes
169.25		0.40	100 %		169		1.50	Same as above
170.75		0.50	33.5 %		170		1.03	Core Loss Claystone
170.88								

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DRILL-HOLE NO UNK-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
170-68	171-26	0.38	100		171		0.38	Claystone, dark grey (N3), med. hard & compact slightly silty, slicken sided with sharp lower contact
171-26	171-27	0.21	100				0.21	
171-27	172-34	1.07	100 %		172		1.07	Claystone dark grey (N3), with at base 0.02 m. greenish grey, hard and compact sandstone exists.
172-34	173-30				173		0.65	Claystone, dark greenish grey (5G 4/1), semi hard, semi compact, with thin sandy intercolo- lions some cherty flakes also seen, upper most 0.02 m. s. stone is med. grained with abundant black mineral grain
173-30	174-55	1.25			174		1.25	Claystone, olive grey (5Y 4/1), med. hard, med. compact with some cherty specks Note cross
174-55	176-58	2.03			175		2.03	Claystone olive grey (5Y 4/1) compact and semi hard resid. pyritic and cherty flakes Claystone, olive grey (5Y 4/1), compact, semi hard pyritic, resinous, slightly silty at base abundant broken shell fragments found.
176-58	178-06	1.48	100 %		177		1.38	Claystone, olive grey (5Y 4/1), medium hard and compact with conchoidal fracture and slicken sided, carbonaceous specks and pyritic grains are base with broken shell fragments
178-06	178-16	0.10	100		178		0.10	Sandstone, medium grey (N5), fine grained calcareous with fossil hash.
178-16	178-35	0.19	100				0.19	Sandstone, light bluish grey (5B 7/1) with some clay, calcareous, fine to med. grained
178-35					179		0.88	Sandstone, greenish grey (5GY 6/1), med. to coarse grained, subrounded to subangular, calcareous, with fossil fragments
		3.05	100 %		180		0.37	L. st. yellowish grey (5Y 8/1) hard, well compact glauconitic, fossiliferous, cherty too
					181		0.35	Light blue v. light grey (NT) & greenish grey (5GY 6/1) hard and compact
							1.45	limestone, med. light grey (N6) very hard well compact, fractures filled by calcite limestone v. light grey (N8), soft to med. hard med. compact, rusty, cherty and fossiliferous



CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
181.40							0.60	Limestone very light grey (1VB), soft to medium hard compact, chalky at places
					182		0.38	Limestone, light grey (NT) to v. light grey (1VB), well compact and hard with black mineral grains
		3.05	100 %		183		0.60	Limestone, light grey, hard, compact, sandy with fine and rounded grains
					184		1.47	Siltstone, med. dark grey (NA), hard, compact calcareous, sandy and fossiliferous too. Upper 0.50 is more clayey.
184.45					185		1.23	Siltstone, greenish grey (5G 6/1) med. hard & med. compact psyllitic and buffed, slightly clayey towards up. part.
		2.50	100 %		186		0.24	Claystone brownish grey (5YR 4/1) with some silty beds and fossiliferous.
					187		0.56	Siltstone med. light grey (N6) with clayey patches and fossiliferous hard.
186.95					188		0.47	Claystone dark grey (N3), psyllitic with carbonaceous material and fossil shells
		1.80	85 %		189		1.80	Claystone, dark grey (N3), rarely psyllitic with minor carb. flakes and some fossil fragments.
189.05					190		0.30	Rose Ross Claystone
		1.60	100 %		191		1.60	Claystone, dark grey (N3) med. hard & compact, up. part more psyllitic, at places silty with rare fossil broken fragments.
190.65								

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DRILL-HOLE NO. UAK-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
190.65	190.65							
					191		0.27	Claystone same as above
							0.25	Claystone, med. dark grey (N4) same as above
		1.83	100 %		192		1.31	Claystone, dark grey (N3), with some gilly patches, slightly pyritic and fossiliferous.
192.48	192.48						0.23	Claystone, med. dark grey (N4), med. hard and med. compact, calcareous with ferric rash
192.95	192.95	0.48	100 %		193		0.25	Siltstone, medium, bluish grey (5B 5/1) calcareous with fossil rash.
							1.06	Siltstone, light greenish grey (5G 8/1), hard compact calcareous, clayey towards base with some fossils
		2.74	100 %		194			
					195		1.68	Claystone, dark grey (N3), med. hard & compact with some pyrite grains and siderite nodules at base fossil shell fragment.
195.70	195.70				196			Claystone same as above
							1.80	
		2.10	68 %		197			
							0.30	Siltstone, clayey, med. dark grey (N4) with some sandy inclusions, soft to med. hard & fossiliferous.
					198		0.95	Core loss.
198.75	198.75				199			Core loss
							0.92	
							0.25	Siltstone, same as above mentioned.
		2.13	69.63 %		200		0.48	Sandstone, med. dark grey (N4) to dark grey (N3), fine to med. grained, browned glauconitic, grades to claystone at base.
					201		1.40	Claystone, dark grey (N3), med. hard med. compact, gilly places, minor carbonaceous specks and pyrite grains observed.
201.60	201.60				2			

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DRILL-HOLE NO. **LIAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					201			
201.84	201.85				202		1.53	Claystone, dark grey (N3), med. hard & compact, slicken sided, upper part pyritic & bel exists 0.05 m. thick in upper part, rarely fossiliferous.
		3.05	100 %		203		0.50	Siltstone, dark greenish grey (5GY 4/1), hard & semi compact, slightly calcareous with a few fossils, slightly sandy.
					204		1.02	Claystone, with s. stone layers dark grey N3 to dark greenish grey (5GY 4/1), compact & med. hard, burrowed with some Carby. flakes
204.85	204.85				205		0.60	Claystone same as above
		2.95	100 %		206		1.70	Sandstone, dark greenish grey (5GY 4/1), med. grained with subrounded grains. Thin clayey layers towards base. It is glauconitic too.
					207		0.85	Claystone, dark grey (N3), med. hard, med. compact, with thin silty patches, slicken sided.
207.84	207.84				208		0.75	Claystone, dark grey (N3), compact and semi hard, sideritic, fossiliferous towards base and grading towards sandstone.
		2.00	65 %		209		0.30	Sandstone, dark greenish grey (5GY 4/1), moderately hard and compact, fine to coarse grained, silty and calcareous.
					210		0.65	Sandstone dark greenish grey (5GY 4/1) fine to med. grained, subrounded to rounded interlayered with claystone.
					211		1.05	
210.84	210.84							Core loss Sandstone

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DRILL-HOLE NO. 114K-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
210.85					211		0.80	Core Loss Sandstone
					212		0.50	Sandstone dark greenish grey (5G 4/1), interbedded with claystone, containing Casby flukes.
		2.25	73.7%		213		1.05	Claystone, dark grey (N3), semi hard, semi compact with fine grained greenish grey s.s. stone with minor Casby material, pyrite grains and fossil shell
							0.70	Claystone dark grey (N3) with alternating s.s. stone It is pyritic, brecciated and fossiliferous.
213.90					214			Claystone brownish black (5YR 2/1) semi hard semi compact, with base casby flukes and pyrite grains some bivalve shells found
		3.05	100%		215		2.90	
					216			Siltstone, olive grey (5Y 4/1), hard and compact, slightly clayey and a few fossils
216.95					217		0.15	
		1.16	61.0%		218		1.16	Claystone, dark grey (N3), semi hard, semi compact, base pyrite grains. up. 0.06 silt a few fossil shells.
							0.74	Core Loss Sandstone
218.45					219		1.23	Sandstone dark greenish grey (5G 4/1) hard, compact fine to med. grained, silty at top and clayey at base, slightly calcareous with scat- tered shell fragments
		3.05	100%		220		1.25	Claystone, brownish black (5YR 2/1) semi hard and compact, pyritic at base with casby flukes and thin intercalations of sandstone
					221		0.57	Claystone with alternating s.s. stone dark grey (N3), pyritic and minor carbonaceous material.
221.90					222			

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DRILL-HOLE NO. UAK-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					221			
221.90					222			
			1.05 34.4 %		223		2.0	Rose Loss Sandstone
					224		1.05	Sandstone greenish black (5Y 2/1), Semi Compact to loose and semi hard. Lyp. is 0.25 is clayey. S. stone is fine to coarse grained with subangular grains & containing shells or fossils.
224.95					225		0.75	Claystone with alternating sandstone, dark grey (N3) med. hard & compact. S. stone is fine grained, containing fossil magnesian grains.
			56.30 %		226		1.33	Rose Loss Sandstone
			1.72 %		227		0.97	Sandstone, dark grey (N3), fine grained, clayey, with rare coaly specks and some tridacite contents.
228.0					228		1.70	Claystone, dark grey (N3) with clastic fine grained sandstone which olive grey (5Y 4/1) silty at places. Contains coaly specks and rare fossil shell fragments.
			58.6 %		229		1.20	Rose Loss Sandstone with claystone
230.90					230			

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DRILL-HOLE NO. WAK-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
230.90					231		0.07	Core Loss
	232.3		96.9 %		232		1.43	Claystone and alternating sandstone same as mentioned above
	233.20				233		0.80	Claystone (silty) med. dark grey (N4) to dark grey (N3), med. hard & compact pyritic grains, Coaly speck and a few fossil fragments seen
	233.20				233		0.10	
					234		0.80	Claystone, same as above
	235.25		100 %		235		1.15	Sandstone, light greenish grey (5G 6/1) fine to med. grained, subangular to subround grains with fossil hash
	235.25				235		1.10	Siltstone med. light grey (N6) and brownish grey (5YR 4/1), med. hard & compact Clayey intercalation, sandy to, fossiliferous
					236		1.10	Sandstone, dark greenish grey (5G 2/1), fine to coarse grained, subangular to angular grains, basally fossiliferous, grading to Carby shale
			100 %		237		0.24	
					237		0.10	
					237		0.55	Sandstone with interlayered carbonaceous shales. Sandstone is dark greenish grey (5G 2/1) while sandstone is olive black (5Y 2/1), fine grained and pyritic
					238		0.53	Disly Coal (Sandy), brownish black
	238.25				238		0.14	Coal brownish black (5YR 2/1 to 5YR 4/1) pyritic & resinous
	238.25				239		0.21	5.8' brownish grey (5YR 4/1) with carb. material disseminated, fine to med. grained, med. compact to loosely compact
			210 %		239		0.95	
					240		0.06	5.8' dark greenish grey (5G 4/1), fine to coarse grained, med. hard to loosely compact with rare fossils
					240		0.12	5.8' (carbonaceous) brownish grey, fine to med. grained with rounded grains
					240		0.18	Core loss
					240		0.79	Sandstone, dark grey (N3) intercalated with claystone containing Carby flecks
					240			Sandy coal, brownish black, comparatively high sp. gravity
					240			Sandstone, dark grey (N3) fine to med. grained with some silty lamination

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DRILL-HOLE NO. 105

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE CORE %	CORE %					
240.35					241		1.10	Sandstone, grayish black (N2) intercalated with carbonaceous flakes, fine to coarse grained, pyritic & slightly clayey.
	270	100	%				0.15	Carbonaceous shale, olive black, pyritic burrowed and slightly silty
					242		0.50	Sandstone, dark greenish grey (5GY 4/1) fine to med. grained with subangular grains.
							0.95	Claystone, olive black (5Y 2/1), med. hard & compact, with rare carb. flakes & pyritic
243.05	243.05				243		0.95	Claystone, brownish black (5YR 2/1), med. hard med. compact
	130	46.4	%		244		0.40	Sandstone
	244.75						0.40	Core loss, Sandstone
244.75					245		0.50	Core loss, Sandstone
	0.50	90.9	%				0.50	Claystone, dark grey (N3) med. hard, med. compact with sandy intercalations. with some carb. flakes.
245.30	245.30						0.55	Sandstone dark greenish grey (5GY 4/1), hard, compact fine to med. grained, calcareous
	1.85	66.0	%		246		1.3	Claystone, dark grey (N3), med. hard, med. compact intercalated with s. stone & contains carbonaceous flakes, pyritic
					247		0.3	Core loss Sandstone
247.45	247.45						0.3	Sandstone, olive black (5Y 2/1), med. to coarse grained, rounded to subrounded, loosely compact to stiff with some carb. flakes and clayey intercalations
	1.70	55.70	%		248		1.70	
					249			Core loss Sandstone
					250		1.25	
250.50	250.50							

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DRILL-HOLE NO. **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
25.30					25.1		1.85	Cose Loss
		0.60	24.40 %		25.2		0.60	Sandstone, dark grey (N3), loosely compact, hard, fine to coarse grained, mostly subrounded grains.
25.95					25.3		0.30	Claystone, brownish grey (5YR 4/1), med. hard, med. compact with thin fine grained sandy laminae
		1.15	100 %		25.4		0.50	Sandstone, med grey (N5), fine to med. grained, soft to med. compact, mostly subrounded grains
25.10					25.5		0.35	Claystone, brownish grey (5YR 4/1), med. hard, med. compact, psyllitic, interbedded with sandstone with corby flakes
					25.6		0.40	Claystone, olive grey (5Y 4/1), slightly silty, psyllitic, med. hard, med. compact with corby inclusions
		2.20	72.0 %		25.7		1.10	Sandstone, greyish black (N8), with abundant corby flakes and clayey bed.
					25.8		0.70	Claystone, dark grey (N3), med. hard, med. compact with thin sandy laminae
25.15					25.9		0.85	Cose Loss Sandstone
		2.00	100 %		26.0		2.00	Claystone, olive grey (5Y 4/1), med. hard, med. compact, psyllitic, slicken sided, sandy towards base
					26.1		1.05	Cose Loss Sandstone
26.20					26.2			



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DRILL-HOLE NO UAK-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
260.24								
		1-15	88.3%		261		0.80	Sandstone, med. light grey (N6) to dark grey (N3) med. to coarse grained, mostly subrounded grains, slightly clayey
					262		0.40	Claystone, brownish grey (5YR 4/1), med. hard, med. compact, thinly laminated with s. stone at the base 0-10 ml. siltstone exists.
							1.85	
					263			
263.25	263.25							
263.25	263.25	0-35	100%				0.35	Claystone interlayered with s. stone. Brownish grey (5YR 4/1) loosely compact, pyritic and burrowed.
263.60	263.60						0.30	
					264			Core Loss, Sandstone
			90.9%		265		2.75	Claystone and sandstone interlayered, brownish grey (5YR 4/1), med. hard, med. compact, pyritic, silty laminae intercalated.
					266			
					267		0.35	Core Loss Sandstone
266.65	266.65						0.50	Claystone interlayered with sandstone, brownish black (5YR 2/1), med. hard, med. compact burrowed & pyritic.
		2.80	91.8%		268		0.60	Sandstone brownish grey (5YR 2/1), med. hard, med. compact with some siltstone and clayey laminae, pyritic to
							1.50	Claystone, olive grey (5Y 4/1) med. hard, med. compact - silty - sandy, slightly pyritic with few coarse contents
					269		0.20	
267.70	267.70				270		0.32	Coal seam
							0.25	UAK-6-2 { 0.52 mcl.
								Highly carbonaceous shale brownish black (5YR 2/1), semi compact slightly sandy grading to sandstone

Run Continues

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DRILL-HOLE NO WAK-6

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					270.27			Sandstone, brownish black (5YR 2/1) to medium dark grey (N4), clayey, slightly silty and pyritic, Carbonaceous towards top.
					271		2.15	
			2.72 89.4%		272			Core Loss
							0.33	
272.75	272.75				273		1.05	Sandstone, med. grey (N5) fine to med. grained med. hard, med. compact with thin conchoidal flakes slightly pyritic and clayey.
			2.00 65.7%		274		0.95	Claystone, olive black (5Y 4/1) med. hard and compact with silty bands, sandy towards top. It is rarely pyritic with some conchoidal specks.
					275		1.05	Core Loss
275.80	275.80				275		0.85	Core Loss
			1.80 59.4%		277		0.40	Sandstone (muddy) brownish black (5YR 2/1) med. to coarse grained, loosely compact.
							0.18	Claystone, med. light grey (N6), semi hard, semi compact with few conchoidal flakes.
							0.92	
					278		0.18	
							0.18	
							0.41	
278.85	278.85				279			Core Loss
			1.0 33.3%		280		2.0	Claystone, Olive black 5Y 2/1, med. hard med. compact with conchoidal flakes. Sandy towards top.
					281		0.55	
					2			

Run Continues

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DRILL-HOLE NO. **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
←								
	281.80				281.40		0.45	Coal seam
	281.85				282.00		0.34	UAK-6-4
	281.85				282.00			Greyish black (N2), olive black (5Y 2/1) resinous, vitreous, with sp. gravelly
	284.90	3.05	100%		283.00		2.71	Sandstone, brownish grey (5YR 4/1) fine to med. grained mostly with 8-6-bounded grains, upper part more carbonaceous and clayey
	284.90				284.00			
	284.90				285.00		0.10	Sandstone dark grey (N3)
	284.90				285.00		0.13	Claystone dark grey (N3), med. hard & compact with corby flakes
	284.90				285.00		0.67	Carbonaceous shale, olive black (5Y 2/1) pyritic and sandy
	284.90				286.00		0.74	Coal seam
	284.90				286.00			UAK-6-5
	284.90	3.00	100%		287.00		1.20	Greyish black (N2) to black (N1), non-banded, pyritic, slightly resinous
	284.90				287.00			Claystone, med. dark grey (N4), pyritic up to 0.06 is highly carbonaceous and sandy towards base
	287.90				288.00		0.76	Sandstone, brownish grey (5YR 4/1) fine grained with subrounded grains having corby specks
	287.90				289.00		1.63	Claystone, med. dark grey (N4) to (N3) sandy, pyritic, minor corby
	287.90	1.89	63.2%		290.00		0.30	Sandstone, med. dark grey (N4), muddy fine grained, subrounded to rounded grains silty towards base, clayey too with some pyritic grains
	290.05				291.00		1.12	
	290.05				291.00			Core Loss

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DRILL-HOLE NO **UAK-6**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
290.95	290.95				291.0			
			NIL		292.0		3.05	Cos. Loss Sandstone
294.00	294.00				294.0			
			NIL		295.0		3.05	Cos. Loss Sandstone
297.05	297.05				297.0			
					298.0			
					299.0			
					300.0			

(Drilling Completed at the depth  
of 297.05 on 18th Oct. 1987  
by 0445 hrs.)

8.111

Lithologic Log

for

Drill Hole

UAK-7

111

R112

DRILL-HOLE NO **WAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
00-00								SURFICIAL COVER: Alluvium / silty clay, light brownish gray, (57R 6/1) sticky.  RECENT. Sand, silt, clayey.
		CORING			1		0.0	
2.0	2.0				2			Alluvium / silty clay; light brown, sticky.
		NON			3		0.0	
4.0	4.0				4			Alluvium / silty clay; light brown, sticky.
					5		0.0	
6.0	6.0				6			Alluvium / silty clay; light brown, light gray.
		CORING			7		0.0	
8.0	8.0				8			Sandy clay / sandstone - light gray, (WT) fine to medium grained, sub-angular to sub- rounded, poorly sorted, micaceous.
		NON			9		0.0	
	10.0				10			
					11			
					12			

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DRILL-HOLE NO **UAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
10.0		CORING			11		2.0	SAND & CLAY / SANDSTONE:- Light gray, fine to medium grained sub-angular to sub-rounded, poorly sorted, micaceous.
12.0	12.0				12		2.0	SANDSTONE/SAND, light gray, fine to medium grained, sub-angular to sub-rounded, micaceous.
		NON			13		2.0	
14.0	14.0				14		2.0	SANDSTONE light gray, fine to medium grained, sub-angular to sub-rounded, micaceous.
		CORING			15		2.0	
16.0	16.0				16		2.0	SANDSTONE/SAND Light gray, fine to medium grained, sub-angular to sub-rounded, 1-2 90% light grains, 10% clay minerals.
18.0	18.0	NON			18		2.0	SANDSTONE/SAND
20.0	20.0				19		2.0	
					20			
					21			
					22			

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DRILL-HOLE NO **UAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
517.0		CORING			21		6.0	SANDSTONE/SAND (N-7) Light gray, fine to medium grained, well-sorted to well-sorted and poorly sorted, cgl. friable.
518.0	518.0				22			
518.0		NON			23		6.0	SANDSTONE/SAND
519.0	519.0				24			
519.0		CORING			25		6.0	SANDSTONE/SAND
520.0	520.0				26			
520.0		CORING			27		6.0	SANDSTONE/SAND
521.0	521.0				28			
521.0		NON			29		6.0	SANDSTONE/SAND
522.0	522.0				30			
					1			
					2			



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DRILL-HOLE NO **UAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
32.0	32.0	CORING			31		2.0	SANDSTONE/SAND Light gray, fine to medium grained, sub-angular to sub-rounded, poorly sorted, contains 90% qtz grains 10% other minerals
32.0	32.0				32			SANDSTONE/SAND
34.0	34.0	NON			33		2.0	
34.0	34.0				34			SANDSTONE/SAND
36.0	36.0				35		2.0	
36.0	36.0	CORING			36			SANDSTONE/SAND
38.0	38.0				37		2.0	
38.0	38.0	NON			38			SANDSTONE/SAND
40.0	40.0				39		2.0	
					40			

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DRILL-HOLE NO **WAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
40.0		NON CORING			41		2.0	SANDSTONE / SAND Light gray (MT) fine to medium grained, sub-angular to sub-rounded poorly sorted, soft, friable, contains 90% $q\frac{1}{2}$ grains, 10% other minerals.
41.0	42.0				42			SANDSTONE / SAND
					43		2.0	
44.0	46.0	NON CORING			44			SANDSTONE / SAND
					45		2.0	
46.0	48.0				46			SANDSTONE / SAND
		NON CORING			47		2.0	
48.0	50.0				48			SANDSTONE / SAND
					49		2.0	
	50.0				50			

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DRILL-HOLE NO UAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
50.00		CORING			51		2.0	SANDSTONE/SAND (N7) light gray, fine to medium grained, sub-angular to sub-rounded poorly sorted, soft, contains ca. 1% quartz grains, 10% other mineral
51.0	52.0				52			SANDSTONE/SAND
52.0		NON			53		2.0	
54.0	54.0				54			SANDSTONE/SAND
54.0					55		2.0	
56.0	56.0				56			SANDSTONE/SAND
56.0		CORING			57		2.0	
58.0	58.0				58			SANDSTONE/SAND
58.0		NON			59		2.0	
60.0	60.0				60			
					1			
					2			

R118

DRILL-HOLE NO **UAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
60.0								SANDSTONE/SAND (N-7) Light gray, fine to med. grained, sub-angular to sub-rounded poorly sorted, contains 90% qtz grains 10% other minerals.
62.0	62.0	CORING			61		2.0	
64.0					62			SANDSTONE/SAND
		NON			63		2.0	
64.0	64.0				64			SHALE/CLAYSTONE: Light brownish gray (5Y 5/6) silty, sticky. Lst. cuttings - (Bed Rock)
					65		2.0	Probably Laki limestone, (Meting shale). Fossiliferous, forams. Alveolina, operculina, Assitina.
66.0	66.0	CORING			66			SHALE/CLAYSTONE/LST Light olive gray (5Y 5/6) silty sandy.
					67		2.0	"
68.0	68.0				68			SHALE/LIMESTONE. Light olive gray (5Y 5/6) Light brownish gray (5Y 5/6) silty, sandy.
		NON			69		2.0	"
					70			

RECENT

(Meting shale)

BED ROCK: LAKI LIMESTONE

R119

DRILL-HOLE NO **6AK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
71.0	72.0	CORING			71		2.0	SHALE / LIMESTONE light olive brown (5451) silty, sandy, calc
72.0	73.0	NON			72			SHALE light olive brown (5451) silty, sandy, calc
					73		2.0	
74.0	75.0				74			SHALE light olive brown (5451) silty, sandy, calc
					75		2.0	
76.0	77.0	CORING			76			SHALE light olive brown (5451) silty, sandy, calc
					77		2.0	
78.0	79.0	NON			78			SHALE light olive brown (5451) silty, sandy, calc
					79		2.0	
					80			

P.120

DRILL-HOLE NO UAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS
FROM	TO	CORE	CORE%				
80.0		CORING			81		2.0
	82.0				82		
82.0		NON			83		2.0
	84.0				84		
84.0					85		2.0
	86.0				86		
86.0		CORING			87		2.0
	88.0				88		
88.0		NON			89		2.0
	90.0				90		
					91		
					92		

SHALE / CLAYSTONE / Limestone cut.  
 Light brownish gray (cutting)  
 Light olive gray (cutting)  
 - thin, calc. ss, 10-20 cuttings

SHALE / CLAYSTONE / Limestone cut.

SHALE / CLAYSTONE / Limestone.

SHALE / CLAYSTONE / Limestone.  
 Olive gray 544/1

CLAYSTONE: Light olive gray 546/1  
 Limestone cuttings.

R121

DRILL-HOLE NO **WAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
90.0		CORING			91			Light olive gray s.s. 6/1 silty, sandy, calc
	92.0				92			"
		NON			93		2.0	CLAYSTONE / shale same as above
	95.0				94			
96.0					95		2.0	CLAYSTONE same as above
	96.0	CORING			96			CLAYSTONE Light olive gray s.s. 6/1 silty, sandy
					97		2.0	
	98.0	NON			98			CLAYSTONE Light brownish gray s.s. 6/1 silty, sandy
					99		2.0	
	100.0				100			
					1			
					2			

R122

DRILL-HOLE NO **UAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
100.0		CORING			101		2.0	CLAYSTONE: light brownish gray (5 & 6/11)
102.0	102.0				102			CLAYSTONE:
		NON			103		2.0	same as above
104.0	104.0				104			CLAYSTONE:
		NON			105		2.0	
106.0	106.0				106			CLAYSTONE:
		CORING			107		2.0	
108.0	108.0				108			CLAYSTONE:
		NON			109		2.0	
110.0	110.0				110			
					111			
					112			



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DRILL-HOLE NO UAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
110.0		CORING			111		2.0	CLAYSTONE: / limestone cuttings, highly calcareous, foraminiferel.
					112			
112.0		NON			113		2.0	CLAYSTONE: Same as above.
					114			
114.0		CORING			115		2.0	CLAYSTONE: Same as above.
					116			
116.0		NON			117		2.0	CLAYSTONE - Same as above.
					118			
118.0		CORING			119		2.0	CLAYSTONE: Same as above
					120			
120.0								

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DRILL-HOLE NO 11AK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
120.0		CORING			121		2.0	CLAYSTONE: / Shales / limestone
					122			
122.0	122.0	NON			123		2.0	CLAYSTONE: Shales / limestone.
					124			
124.0	124.0	CORING			125		2.0	CLAYSTONE: Same as above.
					126			
126.0	126.0	CORING			127		2.0	CLAYSTONE: Same as above.
					128			
128.0	128.0	NON			129		2.0	CLAYSTONE: Same as above.
					130			
130.0	130.0				131			
					132			
					133			
					134			
					135			
					136			
					137			
					138			
					139			
					140			

R125

DRILL-HOLE NO UAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
130.0		NON-CORING			131		2.0	CLAYSTONE: med dark gray (N4),
132.0	132.0				132		0.96	Mating shales. calc. forams interbedded h. st. CLAYSTONE: olive grey ST 4/1, semi-hard, shell frag. pyritic, lenses of v. fine sand at places, few Glauconite grains.
134.55	134.55	CORING	100%		133		1.46	SILTSTONE: Greenish grey ST 6/1, upper part about 0.28 m is slightly clayey & soft. Middle part is hard & compact, highly fossiliferous, full of forams, animal burrows, calc. soft towards base. Glauconitic. Gradually changes into clay stone.
135.55	135.55		100%		134		0.13	CLAYSTONE: Olive grey, ST 4/1, semi-hard, shell frag. slicken side, forams, slightly silty, carb.
135.90	135.90	CORING	100%		135		1.35	CLAYSTONE: Olive black ST 2/1 & olive grey ST 4/1, semi-hard, slicken side, rare shell frag. few pyrite gr. animal burrows, slightly silty at places.
137.55	137.55		100%		136		1.65	CLAYSTONE: Same as above., few v. fine gr. sand lenses encountered, few Glauconite grs.
		CORING	66%		137		1.05	Core loss from top clay stone as above.
					138		2.0	CLAYSTONE: Olive black ST 2/1, semi-hard, rare shell frag. pyritic, at places concentration of well preserved forams, animal burrows, very fine gr. sand lenses at places, slicken side, slightly carb. at places.

R126

DRILL-HOLE NO **UAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
140.60	140.60							140.60
140.60		1.86	100%		141		1.51	<u>CLAYSTONE</u> : Same as above.
					142		0.35	142.11 <u>CLAYSTONE</u> : Dark greenish grey 5G 4/1, semi-hard, shell frag. Glauconitic, animal burrows.
142.46	142.46						0.55	142.46 <u>CLAYSTONE</u> : Dark greenish grey 5G 4/1, semi-hard, slicken side, pyritic, sticky.
143.70	143.70	1.24	100%		143		0.69	143.01 <u>CLASTIC LIMESTONE</u> : light greenish grey 5G 8 1/2, hard, animal burrows, very rare shell frag. Glauconitic, some black minerals, resins, few forams, gradually changes into silt-stone.
143.70					144		1.55	143.70 <u>CLASTIC LIMESTONE</u> : Same as above.
		3.00	100%		145		0.20	145.25 <u>SILTSTONE</u> : Greenish grey 5G 6 1/2, semi-hard, slightly sandy, shell frag. pyritic, animal burrows, resin, slightly calc. forams, clayey at places, gradually changes into clay stone.
					146		1.25	145.45 <u>CLAYSTONE</u> : Dark greenish grey 5G 4/1, semi-hard, slicken side, pyritic, animal burrows, shell frag. Glauconitic, sandy + silty at places.
146.70	146.70				147		1.20	146.70 <u>CLAYSTONE</u> : Dark greenish grey 5G 4/1, same as above, gradually changes into silt stone.
		2.40	96%		148		1.10	147.90 <u>SILTSTONE</u> : Greenish grey 5G 6 1/2, hard, slightly limestone. calc. slicken side, slightly clayey, animal burrows, shell frag. pyritic.
149.20	149.20				149		0.10	149.0 <u>CLASTIC LIMESTONE</u> : Greenish grey 5G 6 1/2 & Med. bluish grey 5B 5 1/2, highly fossiliferous, full of forams, hard, pyritic, animal burrows, silty at places. Marly, Argillaceous.
149.20					150			149.10 Core loss at base clastic l.s. as above.
					1			
					2			

eting Shales.

contact?  
eting Limestone

R127

DRILL-HOLE NO **UAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
							1.40	<u>CLASTIC LIMESTONE</u> : Greenish grey 5G 6 1/2, hard, highly fossiliferous, full of forams, pyritic animal burrows. <i>Alveolina oblonga</i> . 150.60
		2.65	100%		151		1.10	<u>SILTY CLAYSTONE</u> : Dark greenish grey 5G 4 1/2, semi-hard, Marl. shell frag. slicken side, Glauconitic, some black minerals, resins, gradually changes into silt stone. 151.70
151.85	151.85				152		0.15	<u>SILT STONE</u> : Greenish grey 5G 6 1/2, hard, shell frag. Marl. forams, resin, slightly calc. 151.85
		0.90	100%				0.90	<u>SILT STONE</u> : Dark greenish grey 5G 4 1/2, hard, slightly calc. Marl. shell frag. slicken side, rare forams, resin, Glauconitic, clayey at places, some black traces. 152.75
152.75	152.75				153			<u>SILT STONE</u> : Dark greenish grey 5G 4 1/2, same as above Marl. foraminiferal. 155.20
		2.65	100%		154		2.45	<u>SILT STONE</u> : Dark greenish grey 5G 4 1/2, fossiliferous, contains shell frag. & few hard calc. bands, at places clayey, animal burrows, slicken-side. Marly. 156.30
155.20	155.20				155			<u>CLAYSTONE</u> : Dark greenish grey 5G 4 1/2, semi-hard, Marl. slicken side, highly calc. hard bands, shell frag. silty at places, resins, very fine pyritic gr. at places. 157.10
		2.77	100%		156		1.10	<u>SILT STONE</u> : Greenish grey 5G 6 1/2, hard, semi-calc. Marl. shell frag. slicken side, Glauconitic, resins, pyritic gr. at places, fossiliferous. 157.97
157.97	157.97				157		0.80	<u>SILT STONE</u> : Same as above. 158.51
		0.51	51%		158		0.87	<u>SILT STONE</u> : Same as above. 158.51
158.51	158.51				159		0.54	<u>SILT STONE</u> : Greenish grey 5G 4 1/2, semi-hard, fossiliferous, Marl. shell frag. calc. slicken side, clayey at places, Glauconitic, resins, rare pyritic gr. at places. 160
		3.05	100%		160		3.05	

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DRILL-HOLE NO **UAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					161			161.56
161.56	161.56	0.60	100%		162		0.60	<u>SILT STONE</u> :- Dark greenish grey 5Y 4/1, clayey, fossiliferous, contains abundant fossil frag. slightly calc. with hard & highly calc. bands at bottom. 162.16
162.16	162.16	1.30	100%		163		1.30	<u>SILT STONE</u> :- light olive grey 5Y 5/2, semi-hard, slightly calc. highly fossiliferous, few hard highly calc. bands, shell frag. micaceous, resins. 163.46
163.46	163.46	0.20			164		0.20	<u>SILT STONE</u> :- light olive grey 5Y 5/2, semi hard, highly fossiliferous, calc. shell frag. resins, traces of carb. matter. 163.66
165.0	165.0	1.54	100%		164		1.34	<u>SHALE</u> :- Olive grey 5Y 4/1, semi-hard, calc. fossiliferous, shell frag. laminated, resins, animal burrows, silty & clayey at places. 165.00
165.0	165.0				165		0.15	<u>SHALE</u> :- Olive grey 5Y 4/1, same as above. 165.15
166.70	166.70	1.70	100%		166		1.55	<u>INTERBEDDED SHALE &amp; CLASTIC LST.</u> :- Yellowish grey 5Y 8/1, <u>Alveolina oblonga</u> . hard, lst. is fossiliferous, resins, animal burrows, pyrite, calcitic. Shale is olive grey 5Y 4/1, semi-hard, calc. fossiliferous, laminated, resins, slightly clayey at places. 166.70
168.0	168.0	1.30	100%		167		1.30	<u>CLASTIC LIMESTONE</u> :- Yellowish grey 5Y 8/1, hard, fossiliferous, shell frag. forams, at places soft & marly. 168.0
168.0	168.0				168			<u>CLASTIC LIMESTONE</u> :- Same as above. 168.0
169.47	169.47	1.47	100%		169		1.47	
169.47	169.47				170			169.47

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DRILL-HOLE NO **UAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		3.05	100%		171		3.05	<u>SILT STONE</u> : Greenish grey 5GY 6/1, hard, fossiliferous, Marl. shell frag. calc., forams, more clayey towards base, slicken side, resins, Glauconitic, hard calc. bands at places.
	172.52				172			172.52
172.52		1.58	100%		173		1.58	<u>SILT STONE</u> : Greenish grey 5GY 6/1, semi-hard, shell Marl. frag. calc. forams, at places clayey, thin very fine sand lenses at places, animal burrows.
	174.10				174			174.10
174.10		3.0	100%		175		1.70	<u>SILT STONE</u> : Greenish grey 5GY 6/1, same as above.
	177.10	1.30	87%		176		1.30	<u>SILTY CLAYSTONE</u> : Greenish black 5G 2/1, semi-hard, fossiliferous, shell frag. forams, slightly calc. pyritic, animal burrows, slicken side, interbedded silt & clay stone, Glauconitic, resins, more silty towards base.
177.10		1.30			177		1.30	<u>SILT STONE</u> : Greenish grey 5G 6/1, semi-hard, slightly calc. thinly bedded, resins, shell frag. pyritic, few v. grs. animal burrows, hard calc. bands at base.
	178.64				178		0.24	Core loss at base silt stone as above.
178.64		1.51	100%		179		1.51	<u>SILT STONE</u> : Greenish grey 5G 6/1, semi-hard, slightly calc., shell frag., slicken side, at places clayey, animal burrows, resins, rare forams.
	180.15				180			180.15
					1			
					2			

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DRILL-HOLE NO **UAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
180.15	180.15							
		2.65	100%		181		2.65	Limestone (Meting L. St.) Greenish gray, 5 GY 6/1, Hard, compact, Highly fossiliferous, Mostly unidentifiable calcitized fossils. Siltstone full of white calcareous lenses and irregular patches. Disseminated very fine to fine grains of dark green to black colour appear at places. Clayey and slickensided at places <i>Alveolina oblonga</i>
					182			
182.80	182.80							
		1.70	100%		183		1.70	MARL / LST Greenish gray, 5 GY 6/1, Highly fossiliferous, Mostly unidentifiable calcitized fossils. Siltstone full of white irregular calcareous patches. Few hard calcareous bands. Clayey and slickensided at places mottly.
					184			
184.50	184.50							
		1.45	100%		185		1.45	MARL / LST Same as above mottly
					186			
185.95	185.95							
		2.70	100%		187		2.70	MARL / Marl / Limestone Same as above
					188			
188.65	188.65							
		0.60	100%		189		0.60	MARL / LST Greenish gray, 5 GY 6/1, Fossiliferous, Mostly uniden- -tifiable fossils. Few hard, heavy calcareous bands
189.25	189.25							
		2.85	100%		190			MARL / LST Greenish gray, 5 GY 6/1, Highly fossiliferous, Mostly unidentifiable, calcitized fossils, full of white, calcareous
					191			
					192			



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DRILL-HOLE NO UAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					191		2.85	irregular patches, clayey and slickensided at places. Contains few hard calcareous bands. Marl. limestone interbedded. forams.
	192.10				192			192.10
192.10					193		1.90	CLAYSTONE, (Marl) Argillaceous limestone. Dark greenish gray, SG 4/1, Highly fossiliferous near top. At places slickensided. Claystone interbedded with hard fossiliferous siltstone.
	194.00				194			194.00
194.00					195		1.55	CLAYSTONE, Dark greenish gray, SG 4/1 to brownish black, SYR 2/1, Slightly at places. Disseminated very fine to fine grains of pyrite at places. Fossiliferous, mostly unidentifiable fossil fragments. Contains thin lenses of very fine sand.
					196		1.50	CORE LOSS PROBABLY SST.
	197.05				197			197.05
197.05					198		0.65	SANDSTONE. Light gray, N7, Fine grained, equigranular, well sorted. Dominantly subangular quartz grains. About 5% very fine to fine dark grained. Few patches of very fine grained pyrite. Sandstone is soft, friable and slightly muddied.
	198.30				198		0.60	CORE LOSS PROBABLY SST.
198.30					199		1.50	SANDSTONE. Muddy, light gray N7 to dark gray N3. Fine grained well sorted. Dominantly subangular quartz grains. Contains thin lenses of carbonaceous shale. Very fine grained pyrite at few places. Contains about 5% dark grained.
	199.95				200		0.15	CORE LOSS PROBABLY SST.
199.95					201		0.60	SANDSTONE. Muddy, light gray N7 to dark gray N3. Fine grained. Few coarse grains. Dominantly subangular quartz grains. Contains few thin carbonaceous shale lenses. About 5% dark, unidentifiable grains. Soft, friable.
	201.55				201		0.80	CLAYSTONE. Brownish black, SYR 2/1, Sandy, sand very fine to fine, decreases downward. Carbonaceous matter sparsely present in the lower half.
					2			201.35

Motions. R.S.T.

act?

Bara fm.

R132

DRILL-HOLE NO UAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
					1			
201.35					202		2.00	CLAYSTONE, SANDY AND SANDSTONE MUDDY INTERBEDDED, Dark gray N3 to light gray N7. Sand fine grained. Mostly subangular quartz grains
		2.00	89%		203			203.35
203.60							0.25	CORE LOSS
203.60					204		0.80	SANDSTONE SHALE THINLY INTERLAMINATED Light gray N7 to brownish gray SYR 4/1. Sandstone very fine to fine grained. Mostly subangular quartz grains
204.40		0.80	100%					
204.40					205		2.50	CLAYSTONE, Dark greenish gray. SG 4/1
		3.05	100%		206			
					207		0.55	CLAYSTONE, Dark gray N3 to light gray N7. Contains thin partings of very fine to fine quartz sand. 207.45
207.45								207.90
207.45					208		2.00	SHALE AND SAND INTERLAMINATED Dark gray N3 to light gray N7. Sand very fine to fine grained. Dominantly subangular quartz grains
		3.05	100%		209			209.45
					210		1.05	CLAYSTONE, Medium gray N4, Semi hard, Compact.
210.50								210.50
					1			
					2			

R133

DRILL-HOLE NO **UAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
210.50								
		1.90	62%		211		1.90	CLAYSTONE - some as above.
					212			
					213		1.15	CORE LOSS:- probably claystone.
213.55	213.55				214			CLAYSTONE.
		3.05	100%		215		2.45	Medium gray N4, Semi hard, Compact, Silty, Pyritic, Burrows filled with pyrite. Upper part contains fine grained sandstone inter laminated carbonaceous at places
					216		0.60	COAL - brownish black
216.60	216.60				217			CLAYSTONE.
		3.05	100%		218		3.05	Dark gray N3, Medium gray N5, Semi hard compact, Silty, Slickensided at places. Animal burrows filled with pyrite.
					219			
219.65	219.65				220			CLAYSTONE - some as above
					1			
					2			

R134

DRILL-HOLE NO WAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		3.05	100%		222.1		3.05	CLAYSTONE, Brownish gray. 5YR 4/1, Olive black 5Y 2/1, Semi hard, Inter laminated with fine grained sandstone. Silty at places. Shaken sided, Pyritic, Burrowed at places
	222.70				222.2			
222.70					222.3			CLAYSTONE, Same as above
		3.05	100%		222.4		3.05	
	225.75				222.5			
225.75					222.6			CLAYSTONE, Brownish black 5YR 2/1. Semi hard, Inter laminated with fine grained sandstone. Sandstone medium light gray N6. Slightly carbonaceous, rare burrows
		2.75	90%		222.7		2.75	
	228.80				222.8			
228.80							0.30	CORE LOSS
					222.9		1.25	SANDSTONE, Medium dark gray N4. Fine to medium grained subrounded to subangular. Poorly sorted. Few black grains Soft, Clayey. Contains 10 cms thick claystone band at bottom
		1.85	61%		230			
					231		1.20	CORE LOSS Probably sst
231.85								

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DRILL-HOLE NO **UAK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
231.85					232		0.45	CORE LOSS Probably sandstone
								232.30
								SANDSTONE
								Medium dark gray N4, fine to medium grained
								Subrounded to subangular, soft, clayey
								233.75
								CLAYSTONE By Black 5 YR 2/1, Inter laminated with fine
								grained sandstone. Semi hard. Carbonaceous
								233.90
233.90					234		0.27	CORE LOSS Probably sandstone
								234.17
								SANDSTONE, Medium dark gray N4, fine to medium grained
								soft, subrounded to subangular, poorly sorted
								234.95
234.95					235		0.45	CORE LOSS Probably sandstone
								235.40
								SANDSTONE
								Same as above
								236.85
236.50					237		0.35	CORE LOSS Probably sandstone
								236.85
								SANDSTONE
								Same as above
								237.77
								CLAYSTONE Medium gray NS, Inter laminated with fine
								grained sandstone Slightly carbonaceous
								238.25
237.95					238		0.30	CORE LOSS Probably sandstone
								238.25
								SANDSTONE
								Same as above, slightly carbonaceous
								Contains a thin black band of claystone
								at bottom
								239.40
239.40					240		0.60	CORE LOSS, Probably sandstone
								240.00
								SANDSTONE
								Same as above
								241.00
241.00					241			

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DRILL-HOLE NO WAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
241.00		1.00	100%		242		1.00	SANDSTONE, Same as above. Contains a 6 cm thick claystone band at bottom. Br. Gray 5Y 4/1 carbonaceous
242.00	242.00				242		0.24	SANDSTONE same as above
242.00		2.05	100%		243		1.81	CLAYSTONE/SANDSTONE Brownish gray 5YR 4/1, Medium gray NS, Inter laminated, fine grained sandstone. Claystone hard compact, burrowed, slightly carbonaceous. Sandstone fine to medium grained, clayey, poorly sorted
244.05	244.05				244		0.65	CORE LOSS Probably sandstone
244.05		1.20	67%		245		1.20	SANDSTONE, Light olive gray 5Y 6/1, Fine to medium grained subrounded to subangular. About 85% quartz grains. Few black grains.
245.90	245.90				245		0.60	CORE LOSS, Probably sandstone
245.90		1.60	73%		246		1.60	SANDSTONE, Same as above. One 5 cm thick claystone band at the bottom
247.10	247.10				247		0.10	CORE LOSS, Probably sandstone
247.10		1.45	93.5%		248		1.45	SANDSTONE, Same as above. Contains 5 cm thick claystone band at bottom
248.65	248.65				249		0.45	CORE LOSS, Probably sandstone
248.65		1.00	69%		250		1.00	SANDSTONE, Light olive gray, 5Y 6/1, Medium dark gray N4 Fine to medium grained subrounded to subangular clayey, poorly sorted

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DRILL-HOLE NO VAK-77

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
251.10		0.65					0.65	SANDSTONE, Medium dark gray N4, soft friable, fine to medium grained subangular to subrounded. Somewhatly subrounded medium grained. Mostly quartz grains. Poorly sorted. Sand comparatively clean. About 5% dark grains. Few probably carbonaceous.
	251.15				251		0.40	CORE LOSS
251.15		1.65	82.5%		252		1.30	SANDSTONE, Very light gray N8, fine to medium grained subangular to subrounded. Very clean sand. More than 90% transparent quartz grains. About 5% dark grains, mostly carb and shale fragments. Sandstone loose, friable. Contains few coarse grains as well.
							0.35	CORE LOSS
	253.15				253		0.35	CLAYSTONE, Medium gray N5, slickensided at places, contains scattered carbonaceous material.
253.15		0.35	100%				0.35	CLAYSTONE, Dark greenish gray SG 4/1, to brownish gray, SG 4/1, slickensided. Contains hard heavy probably sideritic nodules.
253.50					254		1.40	CLAYSTONE, Medium bluish gray, SB 5/1, Dark greenish gray SG 4/1, compact. Contains sideritic nodules at places. Lower part contains inter laminated fine grained sandstone, at places calcareous.
		2.65	100%		255		1.25	SANDSTONE, Dark greenish gray, SG 4/1, interbedded with claystone. Sst fine grained, contains broken shell fragments. Subrounded grains. Sideritic nodule at bottom.
	256.15				256		0.40	CLAYSTONE, Dark gray N3, contains fine grained sandstone laminations at bottom. Scattered shell fragments.
256.15					257		0.60	SANDSTONE, Medium bluish gray SB 5/1, inter laminated claystone, fine to medium grained. Subrounded to subangular. Sideritic nodules. Animal burrows filled with fine grained sand.
		3.05	100%		258		2.05	CLAYSTONE, Dark gray N3, Compact. Contains shell fragments at places, silty, sandy, slickensided, burrowed.
	259.20				259			
259.20		3.05	100%		260			CLAYSTONE, same as above

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DRILL-HOLE NO WAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		3.05	100%		261		3.05	CLAYSTONE, Dark gray N3, Compact, Silty, Fine sand laminae at places, burrowed, scattered shell fragments. Shickensided. Some mudstone nodules at places.
	262.25				262			
262.25					263		2.80	CLAYSTONE, Brownish black 5 YR 2/1, to dark gray N3, scattered fossil fragments. Rare patches of very fine grained pyrite. Very sparsely burrowed. Grades into muddy sandstone downward.
	265.25				264			
	265.25				265		0.20	SANDSTONE, Very light gray N8 to medium dark gray N4, Muddy, Fine to coarse grained. Poorly sorted. Mostly subrounded grains. Highly fossiliferous. Full of unidentifiable microfossils and shell fragments.
265.25	265.50	0.25	100%		265		0.25	SANDSTONE, light gray N7, Hard, highly fossiliferous, Full of unidentifiable microfossils and shell fragments. Muddy. Fine to coarse grained. Grains mostly subrounded few rounded.
265.50					266		0.51	SANDSTONE, Dark greenish gray 5GY 4/1, Fine to medium grained. Subrounded to subangular. Poorly sorted. Few forams. Clay partings, lower part becomes more clayey.
	268.30				267		0.25	CLAYSTONE, Dark gray N3, Burrows filled with pyrite. Shell fragments and forams present. Shickensided. Few siderite nodules.
		2.80	100%		268		0.30	SILTSTONE, light olive gray 5GY 6/1, Full of forams, shell fragments. Contains carbonaceous and coaly partings. Pyritic. Grades into fine grained sandstone.
	268.30				269		0.30	SANDSTONE light gray N7, Fine grained, hard, compact. Contains megafossils probably Gastropods. Microfossils, shell fragments. Calcareous.
					270		0.80	SANDSTONE, Dark greenish gray 5GY 4/1, Dark gray N3, Fine grained, subrounded grained. Poorly sorted. Clayey. Lower part more clayey. Slightly carbonaceous.
		3.05	100%		271		3.05	CLAYSTONE, Dark gray N3, Silty, Fine grained sandstone inter laminated at places. Rare shell fragments. Rarely burrowed. Pyritic.
	271.35							CLAYSTONE, Olive black 5Y 2/1, Dark gray N3, Dark greenish gray 5GY 4/1, Inter laminated fine grained sandstone in upper 1.50 meters. Silty at places. Shell fragments throughout lower part. Contains patches of fine grained sandstone. Pyritic at places. Rarely burrowed. Slightly carbonaceous downward.

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DRILL-HOLE NO 4AK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
271.35							0.40	SANDSTONE/CLAYSTONE. Dark greenish gray 5GY 4/1; olive black 5Y 2/1. Inter laminated. Slightly carbonaceous. Pyritic sandstone pyritic 271.75
		3.05	100%		272			
					273		2.65	CLAYSTONE. Olive black 5Y 2/1, Dark greenish gray 5GY 4/1, Compact laminated with fine grained sandstone. More sandy downward. Scattered carbonaceous material pyritic. Silty at places. Rare pyritized woody material
					274			
274.40								274.40
274.40							0.90	CORE LOSS Probably sandstone 275.30
					275			
		2.15	70.4%		276		1.33	SANDSTONE Light olive gray 5Y 6/1, Fine to medium grained subrounded to subangular. About 85% quartz grains. Few black grains. Loose, soft, friable upper part clayey. 276.63
					277		0.70	SANDSTONE, Dark greenish gray 5GY 4/1, Clayey matrix fine to medium grained. Carbonaceous material at places. 277.33
277.45							0.12	CLAYSTONE, Dark gray N3. Compact. Contains abundant broken shell fragments 277.45
277.45							0.05	CORE LOSS Probably sandstone. 277.50
					278		1.10	SANDSTONE, Medium dark gray, N4, Clayey matrix, Fine to medium grained. Subrounded to subangular few black grains. Slightly carbonaceous. 278.65
		2.95	97%		279		1.85	CLAYSTONE, SANDSTONE Dark gray N3, Medium dark gray N4 Compact Fine to medium grained sandstone interlan. mated with claystone. Claystone silty, burrows filled with fine sand. Scattered shell fragments. Rare mica fossils. Disseminated pyrite crystal at places. 280.5
					280			
280.45								280.45

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DRILL-HOLE NO UAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
280.45					281		1.05	CORE LOSS Probably Sandstone 281.50
		2.00	66%		282		1.60	SANDSTONE Medium dark gray N4, Fine to medium grained Subrounded to subangular Poorly sorted, Muddy loose, soft, friable. 283.10
					283		0.50	CLAYSTONE. Medium dark gray N4, Interlaminated fine to medium grained Sandstone. Burrows and shell fragments rare. 283.50
283.50					284		1.30	CORE LOSS Probably Sandstone. 284.20
		1.70	48%		285		1.70	SANDSTONE Light olive gray. 5Y 6/1, Fine to medium grained. Subrounded to subangular. 95% quartz grains. Few black grains, loose, soft, friable. 286.50
286.50					287		1.59	CORE LOSS Probably Sandstone 288.11
		1.46	48%		288		1.12	SANDSTONE, Light olive gray 5Y 6/1, Fine to medium grained. Subrounded to subangular. 95% quartz grained Few dark grains. Soft, loose, friable 289.43
					289		0.22	SANDSTONE, Light olive gray, 5Y 6/1, Dark greenish gray 5Y 4/1, Fine to medium grained. Sandstone inter laminated with claystone towards base Scattered shell fragments Sandstone poorly sorted, Clayey matrix. 289.55
289.55		NIL -			290		1.15	CORE LOSS
								290.70

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DRILL-HOLE NO WAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
290.70					291		0.90	CLAYSTONE, 290.70 Olive black SY 2/1, Compact, Contains carbonaceous material at places. Fine to medium grained sand patches near top. Burrowed, Pyritic. Rare pyritized plant material. 291.60
292.00	292.00	0.90	78%		292		0.40	CORE LOSS 292.00
292.00	292.40	0.40	100%				0.40	SANDSTONE, Dark gray N3. Fine to medium grained, subrounded to subangular, Poorly sorted, Clayey, Scattered carbonaceous material.
292.40	292.70	0.30	100%				0.30	CLAYSTONE, Olive black, SY 2/1, Compact, Fine sandstone laminae on top. Scattered carbonaceous material at places. 292.70
292.70					293			SANDSTONE/CLAYSTONE, Interlaminated, Greenish black SY 2/1, Olive black SY 2/1, compact, fine to medium grained, subrounded to subangular. Poorly sorted, Clayey, Interlaminated with claystone. Scattered carbonaceous material.
		3.00	100%		294		3.00	CLAYSTONE, Olive black SY 2/1, Compact, silty, sandy at places. Scattered shell fragments. Carbonaceous at places. Rarely burrowed, thickened sided. Few sideritic nodules. 295.70
295.70	295.70						0.70	CORE LOSS 295.90
295.70					296		0.95	SANDSTONE, Dark greenish gray, SG 4/1, Dark gray N3, Fine to medium grained. Subrounded to subangular, Poorly sorted, Silty, Clayey towards base. Shell fragments at places.
		2.85	93.4%				0.40	CLAYSTONE/SANDSTONE, Olive black SY 2/1, compact, fine to medium grained sandstone patches. Carbonaceous material throughout. 297.35
					297		1.00	SILTSTONE/SANDSTONE, Dark greenish gray SG 4/1, Very fine grained. Sandy at places. Sandstone fine to medium grained. Scattered carbonaceous matter shell fragments and probably forams abundant. Clayey throughout. 298.25
298.75	298.75				298		0.50	CLAYSTONE, Olive black SY 2/1, Compact, sideritic nodule at places. Lower part grades into very fine grained sandstone. Dark greenish gray, SG 4/1 silty. Broken shell fragments at bottom. 298.75
298.75					299		0.30	SILTSTONE, Dark greenish gray SG 4/1, Compact, sandy at places. Contains shell fragments. 299.05
		3.05	100%				2.75	CLAYSTONE, Olive black SY 2/1, Compact, Interlaminated fine grained sandstone. Carbonaceous material at places. Rare animal burrows. Pyritic, Rarely pyritized plant material.
301.80					301			
301.80								301.80

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DRILL-HOLE NO WAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
301.80					302			
			2.35 77%		303		2.35	CLAYSTONE, Olive black SY 2/1, Compact, inter laminated fine grained sandstone. Sandstone subrounded to subangular. Fine to medium grained, poorly sorted. Carbonaceous material at places. Rare animal burrows. Slightly pyritic at places
					304			
							0.70	CORE LOSS
304.85	304.85							
304.85			0.83 92%		305		0.83	CLAYSTONE, Dark gray N3, Olive black SY 2/1, Compact, silty, fine grained sandstone inter laminated, Carbonaceous. Sideritic nodules at places. Animal burrows filled with sand, slickensided at places
	305.75							
305.75					305		0.48	SANDSTONE, Dark gray N3, fine to medium grained, subangular to subrounded poorly sorted, Carbonaceous at places. Clayey, contains few 2 cm thick bands of claystone
			2.10 100%				1.40	CLAYSTONE Olive black SY 2/1, Dark gray N3, Semi hard, Silty, fine grained sandstone lamination at places. Contains shell fragments at places. Slightly carbonaceous
					307			
	307.85						0.22	SILTSTONE, Dark greenish gray, SGY 4/1, Olive gray SY 4/1, Sandy at places. Contains forams and shell fragments, hard and compact
307.85					308		0.30	CLAYSTONE, Olive black SY 2/1, Silty, sandy. Rare shell fragments few sideritic nodules
							0.31	CORE LOSS
			2.24 88%		309		1.94	SANDSTONE, Dark greenish gray SGY 4/1, Olive gray SY 4/1, Fine to medium grained, at places coarse, subrounded to subangular, Clayey, Contains forams and shell fragments. Inter laminated with claystone towards base. Slightly carbonaceous. Sideritic nodules
					310			
310.40								

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DRILL-HOLE NO **UNK-7**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
310.40								
					311		3.05	CLAYSTONE. Olive black SY 2/1, Semi hard, compact. Fine laminations of silt and fine grained sandstone at places animal burrows filled with pyrite. Pyrite at places
		3.05	100%		312			
					313			
	313.45							
313.45							0.22	CORE LOSS
		0.78	78%		314		0.78	CLAYSTONE. Same as above
	314.45							
314.45					315		1.24	CLAYSTONE, Olive black SY 2/1, Semi hard, compact. Silty and fine sandstone laminations, at places pyritic.
		1.78	73%					
					316		0.42	SANDSTONE, Light olive gray. SY 6/1, Olive gray SY 4/1, Very fine to fine grained. Silty, hard, compact. Shell fragments, few black grains.
							0.12	CLAYSTONE, Olive black SY 2/1, Silty, slickensided
							0.67	CORE LOSS
	316.90							
316.90					317		0.49	CORE LOSS Probably Sandstone
		2.31	82%		318		1.00	SANDSTONE, Light gray NT, Fine to medium grained, subrounded to subangular, mostly subrounded. Contains coarse massed and irregular partings. Lower part clayey and grades to claystone.
					319		1.31	CLAYSTONE, Olive black SY 2/1, Fine grained sandstone laminations at places carbonaceous, Pyrite. Animal burrows filled with sand. Fine sand and coaly laminations trace.
	319.70							
319.70		0.30	100%		320		0.30	SILTSTONE, Dark greenish gray SY 4/1, Contains shell fragments slightly clayey.
	320.00							

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DRILL-HOLE NO WAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
320.00								CLAYSTONE/SANDSTONE Dark gray N3, Interlayered sandstone, fine to medium grained, subrounded to subangular, mostly subrounded, in mudstone part carbonaceous material, coarse lamination at places. Layer part sandy, upper part contains some siderite nodules.
		3.37	67%		321		2.00	
					322			
							1.00	CORE LOSS. Probably 55%.
323.00	323.10				323		0.25	CORE LOSS. Probably 55%.
323.10							0.95	SANDSTONE. Light olive gray 5Y6/1, Medium dark gray N4, fine to medium grained, at places coarse grained, subrounded to subangular, mostly subrounded, clayey at places, scattered carbonaceous material.
		7.80	92%		324		0.30	CLAYSTONE. Olive black 5Y2/1, Interlaminated fine grained sandstone. Scattered carbonaceous material.
							0.15	SHALE CARBONACEOUS, brownish black 5Y2/1, Coaly laminations, sandy.
					325		1.40	SANDSTONE, Medium dark gray, N4, Medium light gray N6, fine to medium grained, subrounded to subangular, mostly subrounded, clayey at places. Contains carbonaceous material. Interlayered claystone towards base.
326.05	326.05				326			CORE LOSS
							1.95	Probably Sandstone,
		1.10	36%		327			
					328		1.10	SANDSTONE, Medium dark gray N4, Medium light gray N6, fine to medium grained, subrounded to subangular, mostly subrounded, Interlaminated claystone towards base. 30% claystone.
329.10	329.10				329			
							1.22	CORE LOSS
		1.00	45%		330			SANDSTONE, Medium light gray N6, fine to medium grained, subrounded to subangular, mostly subangular, clayey, soft, at places claystone and carbonaceous material. Poorly sorted.
					331		1.00	
331.32								

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DRILL-HOLE NO UAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
331.22								
		NIL						CORE LOSS Probably sandstone
332.15	332.15				332			332.15
332.15								CLAYSTONE, Olive black 542/1, Some hard, fine grained sandstone lamination throughout. Scattered carbonaceous material at places. Animal burrows filled with fine sand. Siderite veins and more sandy towards base
		1.70	56%		333		1.70	333.65
					334		1.25	CORE LOSS Probably sandstone
					335			335.20
335.20	335.20						1.25	CORE LOSS Probably sandstone
					336			336.45
		1.80	59%		337		1.80	SANDSTONE, light olive gray, 546/1, Medium gray N.S. Fine to medium grained. Subrounded to subangular, mostly subrounded. Interbedded with claystone at places. Rarely carbonaceous.
					338			338.25
338.25	338.25						0.25	SANDSTONE, Same as above, light olive gray 546/1, subangular medium gr. t.f.
					339		1.40	339.65
		1.40	47%					CLAYSTONE, Olive black, 542/1, sandy.
					340		0.16	340.25
							0.17	DIRTY COAL, Olive black 546/1, Fine sandstone and clay laminations. Pyritic.
					341		1.02	341.25
341.25	341.25							CLAYSTONE, Olive black 542/1, Some hard, fine grained sandstone laminations at places, animal burrows filled with sandstone. Contains carbonaceous material at places. Rarely pyritic.

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Form 12  
DRILL-HOLE NO UAK-7

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
341.25							0.20	CORE LOSS: Probably Sandstone 341.45
		1.20	86%		342		1.20	SANDSTONE light olive gray 5Y 6/1, Medium gray N6, fine to medium grained. Subrounded to subangular. Mostly subangular. Clayey. At places claystone interlamination. Contains carbonaceous material 342.65
342.65					343		0.85	SANDSTONE, light olive gray, 5Y 6/1, Very fine to medium grained. Subrounded to subangular, mostly subrounded grains. Contains carbonaceous and coaly laminations in the middle. 343.50
343.50		0.85	65%		344		0.45	CORE LOSS: PROBABLY SANDSTONE 343.95
					344		0.45	SANDSTONE: same as above 344.40
		0.45	31%		345		1.0	CORE LOSS: probably sst 345.40
345.40					346		1.75	CORE LOSS: probably sst 347.15
		0.10	5%		347		0.10	SANDSTONE: same as above 347.25
347.25					348		0.54	CLAYSTONE: (undr clay) med gray N5, med light gray N6 347.85
					349		1.50	SILTSTONE: Light brownish gray 5YR 8/1, inter laminated fine grained sst. carbonaceous at places. grade into sst toward base. 349.35
		2.10	70%		350		0.90	CORE LOSS probably sst.



CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
350.25	350.25							350.25
350.25						0.44		SILTSTONE: Light olive gray 5Y 6/1, interlamination of fine grained sst and clayey at places, contains carbonaceous matter at places, grade into fine-med grained sst towards base.
					351			350.69
		2.68	88%			2.24		SANDSTONE: Light olive gray 5Y 6/1, fine to med grained, inter laminated claystone in the middle, lower part is soft, friable sub-rounded to sub-angular, mostly sub-rounded grains, contains rarely carbonaceous at places.
					352			352.93
					353			CORE LOSS: Probably sst.
353.30	353.30					0.37		353.30
353.30								CORE LOSS: Probably sst.
					354	1.55		354.85
		2.65	41.5%					SANDSTONE: Light olive-gray 5Y 6/1, fine to med grained, sub-rounded to sub-angular grains, contains scattered carbonaceous & coaly lamination, sst is hard to soft.
					355	1.10		355.95
355.95	355.95					0.25		356.20
355.95		0.15	37.5%			0.15		CORE LOSS Probably sst.
356.35	356.35							SANDSTONE: Light olive gray 5Y 6/1, hard
								CORE LOSS Probably sst.
					357	1.55		357.90
		1.45	48.3%					SILTSTONE: Olive gray 5Y 3/2, inter laminated fine grained sst, scattered carbonaceous material
					358	0.75		358.65
								CLAYSTONE: Olive gray 5Y 3/2, silty at places scattered carbonaceous material.
					359	0.30		358.95
359.35	359.35							COAL: From 358.95 - 360.45
						1.50		1.50m (THICKNESS TOTAL)
359.35	359.35	1.20	100%					359.35
					360			COAL Black, compact to brittle pyritic at places.

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CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								COAL same as above 360.45
360.53	360.55						0.18	SHALE: HIGHLY CARBONACEOUS 360.55
		0.93	50.2%		361		0.93	SHALE: CARBONACEOUS: OLIVE black 542/1 Med dark gray N4, silty and sandy Through out. contain coaly lamination. 361.48
					362		0.92	CORE LOSS: Probably sst. 362.40
362.40	362.40				363			CORE LOSS Probably sst
		0.30	10%		364		2.70	
365.40	365.40				365		0.30	SANDSTONE: Light olive gray 544/1, sub-rounded to sub-angular grains mostly sub-rounded grain, contain clayine bond - carbonaceous. 365.10
365.40	365.40				366			
		NIL	-		367		3.05	CORE LOSS Probably sst
368.45	368.45				368			
368.45	368.45				369		2.10	CORE LOSS: Probably sst 368.45
		0.95	31%		370			



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Lithologic Log

for

Drill Hole

UAK-8

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DRILL-HOLE NO

UAK-8

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
00.00		NON CORING						ALLUVIUM COVER: RECENT
					1		2.0	SILTY CLAY: yellowish gray 5Y7/2, very fine to fine grained, mostly sub. rounded grains, micaceous, biotite, muscovite are common.
02.00	02.00				2			SILTY CLAY: yellowish gray 5Y7/2, slightly sandy micaceous
					3		2.0	
04.00	04.00	NON CORING			4			SILTY CLAY: yellowish gray 5Y7/2, micaceous slightly sandy.
					5		2.0	
06.00	06.00				6			SILTY CLAY: yellowish gray 5Y7/2, micaceous slightly sandy.
					7		2.0	
08.00	08.00	NON CORING			8			SILTY CLAY: yellowish gray 5Y7/2, micaceous slightly sandy.
					9		2.0	
10.00					10			
					11			
					12			

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DRILL-HOLE NO **UAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
10.00		C O R I N G			11		2.0	SILTY CLAY - yellowish gray 5Y7/2, micaceous sandy.
12.00	12.00				12			
					13		2.0	SILTY CLAY - yellowish gray 5Y7/2, contains 10% sand grains, sub-rounded, black mineral.
14.00	14.00	C O R I N G			14			
					15		2.0	SILTY CLAY / SAND (RIVER SAND) yellowish gray 5Y7/2, light olive gray 5Y6/1 fine to med grained sub-rounded to sub-angular, moderately sorted, mostly 20% grains, rarely micaceous contains black minerals.
16.00	16.00				16			
		C O R I N G			17		2.0	SAND - light olive gray 5Y6/1, fine to med grained sub-rounded to sub-angular mostly sub- rounded, loose, soft, friable, contains 80% 20% grains, 20% black minerals, green minerals, rarely micaceous.
18.00	18.00				18			
					19		2.0	SAND - same as above.
20.00	20.00	C O R I N G			20			
					21			
					22			

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DRILL-HOLE NO. **WAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
20.00		CORING		↑	21		2.0	SAND: - same as above
22.00	22.00				22		2.0	
24.00		NON		10-15%	23		2.0	SAND: - light olive gray silt, fine to med grained sub-rounded to sub-angular, contains black minerals also some green minerals, micaceous
24.00	24.00				24		2.0	SAND: - same as above
26.00		CORING		↓	25		2.0	
26.00	26.00				26		2.0	SAND: - same as above
28.00		NON			27		2.0	
28.00	28.00				28		2.0	SAND: - same as above
30.00					29		2.0	
30.00	30.00				30		2.0	

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DRILL-HOLE NO **UAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
30.00		CORING			31		2.0	SAND: same as above
	32.00				32			
32.00		NON			33		2.0	SAND: same as above
	34.00				34			
34.00		CORING			35		2.0	SAND: same as above
	36.00				36			
36.00		NON			37		2.0	SAND: same as above
	38.00				38			
38.00		CORING			39		2.0	SAND: same as above
	40.00				40			



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DRILL-HOLE NO **UNK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
40.00		CORING			41		2.0	SAND: same as above
42.00	42.00				42			SAND: same as above
		NON			43		2.0	
44.00	44.00				44			SAND: same as above
		CORING			45		2.0	
46.00	46.00				46			SAND: same as above
		NON			47		2.0	
48.00	48.00				48			SAND: same as above
		CORING			49		2.0	
50.00	50.00				50			
					1			
					2			

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DRILL-HOLE NO

UAK-8

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	RECOVERY					
50.00								SAND: same as above
	52.00	CORING		^	51		2.0	
52.00					52			SAND: same as above
	54.00	NON			53		2.0	
54.00					54			SAND: same as above
	56.00			10-15%	55		2.0	
56.00					56			SAND: same as above
	58.00	CORING			57		2.0	
58.00					58			SAND: same as above
	60.00	NON		Y	59		2.0	
					60			
					1			
					2			

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DRILL-HOLE NO **WAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
60.00		CORING		X	61		2.0	SAND:- same as above
62.00	62.00				62			SAND:- same as above
		NON			63		2.0	
64.00	64.00				64			SAND:- same as above
		CORING		10-15%	65		2.0	
66.00	66.00				66			SAND:- same as above
		NON		Y	67		2.0	
68.00	68.00				68			SAND:- same as above
		CORING			69		2.0	
70.00	70.00				70			
					1			
					2			

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DRILL-HOLE NO. **UAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
70.00		CORING			71		2.0	SAND - yellowish brown, fine to coarse grained, gritty, weathered grains.
	72.00				72			
72.00		NON			73		2.0	SAND - light olive-gray silt, fine to med grained, sub-rounded to sub-angular, mostly sub-rounded grains.
	74.00				74			
74.00				10-15%	75		2.0	SAND - same as above.
	76.00				76			
76.00		CORING			77		2.0	SAND - same as above.
	78.00				78			
78.00		NON			79		2.0	SHALE/CLAY/SAND: yellowish gray silt/2 fine to med grained, sub-angular to sub-rounded, may be sand from upper strata. 40% sand 60% clay-shale.
	80.00				80			
					1			
					2			




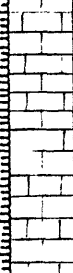
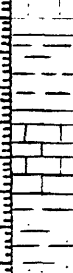
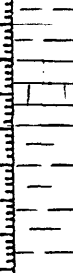
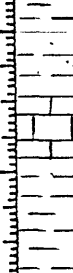

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DRILL-HOLE NO **UAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
90.00		CORING			91		2.0	CLAYSTONE/SHALE Some Lst. CUMING appears sandy, brown, pinkish brown shale partings.
92.00	92.00				92			
		NON			93		2.0	CLAYSTONE/SHALE SANDY at places Some Lst. CUMING
94.00	94.00				94			
					95		2.0	CLAYSTONE/SHALE Lst. CUMING
96.00	96.00				96			
		CORING			97		2.0	CLAYSTONE/SHALE Some Lst. CUMING 10%
98.00	98.00				98			
		NON			99		2.0	CLAYSTONE/SHALE Some Lst. CUMING 20%
100.00	100.00				100			
					1			
					2			

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DRILL-HOLE NO **UAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
100.00		CORING			101		2.0	LIMESTONE: very light gray n/8 to pinkish gray s.s. 1/8", hard, crystalline, foraminiferal + shell fragments.
	102.0				102			
102.0		NON			103		2.0	LIMESTONE: same as above
	104.0				104			
104.0					105		2.0	LIMESTONE / SHALE
	106.0				106			
106.0		CORING			107		2.0	LIMESTONE / SHALE
	108.0				108			
108.0		NON			109		2.0	LIMESTONE / SHALE / SANDY Light gray n/8 pinkish gray, fine grained s.s. forams mostly.
	110.0				110			
					1			
					2			

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DRILL-HOLE NO

44K-8

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
110.00								LIMESTONE / SHALE / SANDY same as above.
		CORING			111		2.0	
112.00	112.00				112			SHALE... sandy with 25% clumping. light gray to pinkish gray fine to med. grained sst. sub. angular to sub. rounded grains.
		NON			113		2.0	
114.00	114.33				114			SHALE... sand light gray... fine to med. grained
					115		2.0	
116.00	116.00				116			SHALE / SANDY quartz grains 50%, light gray to pinkish gray oxidized brown probably contact
		CORING			117		2.0	
118.00	118.00				118			SANDSTONE / SANDY CLAYS light gray fine to coarse grained sub. angular to sub. rounded silty 65% grains 80%.
		NON			119		2.0	
120.00	120.00				120			

LAKHNAU

BARA

BARA FORMATION



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DRILL-HOLE NO. **UAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
120.00		CORING			121		2.0	SANDSTONE: Light gray, fine to coarse grained, sub-angular to sub-rounded 80% $\frac{2}{3}$ grains. clayey.
122.00	122.00				122			
122.00		CORING			123		2.0	SANDSTONE: Same as above.
124.00	124.00				124			
124.00		CORING			125		2.0	SANDSTONE: - same as above
126.00	126.00				126			
126.00		CORING			127		2.0	SANDSTONE. Same as above silty, clayey.
128.00	128.00				128			
128.00		CORING			129		2.0	SANDSTONE / SANDY CLAYSTONE Light gray to very light gray fine to coarse grained, 60% $\frac{2}{3}$ grains.
130.00	130.00				130			

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DRILL-HOLE NO. **WAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
130.00		CORING			131		2.0	SANDSTONE / SANDY CLAYSTONE same as above
132.00	132.00				132			
132.00		NON			133		2.0	SANDY CLAYSTONE: med dark gray N4 fine grained ssf sub. rounded to sub-angular.
134.00	134.00				134			
134.00		CORING			135		2.0	SANDY CLAYSTONE: same as above
136.00	136.00				136			
136.00		CORING			137		2.0	SANDY CLAYSTONE: same as above
138.00	138.00				138			
138.00		NON			139		2.0	SANDY CLAYSTONE: same as above
140.00	140.00				140			
					1			
					2			

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DRILL-HOLE NO. **UAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
140.00		CORING						SANDY CLAYSTONE
					141		2.0	same as above
142.00	142.00	NON			142			SANDY CLAYSTONE
					143		2.0	same as above
144.00	144.00				144			SANDY CLAYSTONE
					145		2.0	same as above
146.00	146.00	CORING			146			SANDY CLAYSTONE
					147		2.0	same as above
148.00	148.00	NON			148			SANDY CLAYSTONE
					149		2.0	same as above
150.00					150			

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DRILL-HOLE NO **WAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
50.00		NON-CORING			151			SANDY CLAYSTONE.
151.40	151.40				152		1.75	CLAYSTONE: DARK GRAY N <sub>3</sub> , semi hard. fine grained sst. inter laminated in the upper part. shell fragments (white) at places
153.15	153.15				153		0.60	SANDSTONE: DARK greenish gray 50/100, fine to med grained, sub-rounded to sub-angular grains, poorly sorted, contains shell fragments, calcareous, semi hard compact, clayey matrix.
					154			SANDY CLAYSTONE: DARK GRAY N <sub>3</sub> , inter laminated fine grained sst, sub-rounded to sub-angular, bitellitic at places, rarely carbonaceous, bitellitic side surface.
					155		2.45	
156.20	156.20				156			SANDY CLAYSTONE: DARK GRAY N <sub>3</sub> , semi hard inter laminated fine grained sandstone bitellitic side, lower part is more sandy
					157		1.65	
					158		1.40	CORE LOSS: Probable sandy claystone
159.25	159.25				159		0.90	SANDSTONE/CLAYSTONE: Light gray N <sub>1</sub> to dark gray N <sub>3</sub> , semi hard, compact, interbedded claystone, contains carbonaceous material lower part become more sandy
					0			
					1			
					2			

CORING BEGIN ↑

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DRILL-HOLE NO. **WAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					161		2.15	CORE LOSS: PROBABLY SST./CLAYSTONE
	162.30				162			
162.30					163		2.70	SANDSTONE/CLAYSTONE Light gray N7 - dark gray N3 semi-hard, compact, fine to med grained sub-angular to sub-rounded, interbedded claystone, pyrite, carbonaceous, contains siderite nodules towards base
		2.70	86.5%		164			
	165.35				165		0.35	CORE LOSS: PROBABLY SST./CLAYSTONE
165.35					166		2.25	CORE LOSS: PROBABLY SST./CLAYSTONE
		0.80	26%		167			
	168.40				168		0.80	SANDSTONE/CLAYSTONE Light gray N7, dark gray N3, fine to med grained, sub-angular to sub-rounded poorly sorted, interbedded claystone, heavily carbonaceous. Pyritic, siderite nodules.
168.40					169		1.05	SANDSTONE - dark gray N3, semi-hard, compact moderately interbedded, fine to med grained with carbonaceous material.
		1.20	29.3%		170		3.15	SANDSTONE - light brownish gray N6.5, hard compact, to med coarse grained, with siderite nodules.

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DRILL-HOLE NO

UNK-8

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS..
					171		1.85	
171.45	171.45				172		1.05	CLAYSTONE: DARK GRAY N3, sandy, semi. hard interlaminated fine grained ss. silty. Thinned out contain carbonaceous material at places
							0.14	DIRTY COAL: DIVE black ss 2 1/2" clayey sandy, at places, sandy.
		1.80	59%		173		0.63	CLAYSTONE: DARK GRAY N3, sandy, semi. hard interlaminated fine grained ss. more sandy towards bottom.
					174		1.25	CORE LOSS.. Probably CLAYSTONE / ss.
174.50	174.50				175		1.50	SANDSTONE / ss. VERY LIGHT GRAY N8. fine to med grained, sub-sorted to sub-angular mostly sub-sorted, loose, friable, 95% of grains.
		1.50	50%		176			CORE LOSS.. Probably ss.
					177		1.50	
177.50	177.50				178		1.30	CORE LOSS.. Probably ss.
		1.75	57%		179		1.0	SANDSTONE: Light olive gray ss 4 1/2" fine- med grained, angular to sub-sorted better sorted, 80% of grains 10% dark grains
					180		0.75	SANDY CLAYSTONE: Light gray N2 - dark gray N3 interlaminated silty sandstone, semi. hard

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DRILL-HOLE NO **UAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
180.55	180.55							compact, carbonaceous flakes at places
					181			CORE LOSS: Probably sst / S. CLAYSTONE
		1.0	33%		182		2.05	
					183		0.40	SANDSTONE: Light gray N7 to dark gray N3 fine to med grained, angular to sub. rounded blocky bedded, silty, contain carbonaceous lenses at places
183.60	183.60				184		0.60	CLAYSTONE: Light brownish gray sst R 6/1 to dark gray N3, semi-hard, compact, lenses of fine grained sand, pyritic, carbonaceous.
					185		1.35	CORE LOSS: Probably claystone / sst
		1.70	56%		186		0.15	SANDSTONE: Light gray N7, fine to med grained sub. angular to sub. rounded, soft, friable silty, 80% of grains.
					187		1.55	CLAYSTONE: Light brownish gray sst R 6/1, med light gray N/6, semi-hard, compact, sandy lenses, fine to med grained, sub. angular to sub. rounded, blocky bedded, pyritic, carbonaceous at places, brown siderite nodules.
186.65	186.65				188		1.35	CORE LOSS: Probably sst / CLAYSTONE INTERBEDDED.
		0.30	16%		189		0.30	SANDSTONE: Light gray to dark gray interlaminated claystone, semi-hard, compact carbonaceous, pyritic, fine to med grained, siderite nodule.
188.50	188.50				190		1.15	CORE LOSS: Probably sandstone.
189.65	189.65	NIL	-					

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DRILL-HOLE NO **UAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS - PROBABLY SANDSTONE/SAND
					191		3.0	
		NIL			192			
192.65	192.65				193			CORE LOSS - PROBABLY SPT/SAND
		0.30	10%		194		2.70	
					195			
195.65	195.65				196		0.30 0.05	SANDSTONE - light gray to med gr. well-sorted to sub-angular, silty, clayey at places, siliceous nodule fine to coarse grained, with coaly shale & claystone band
		0.05	1%		197		3.00	CORE LOSS - PROBABLY SPT/SAND
					198			
198.70	198.70				199			CORE LOSS - PROBABLY SPT/SAND
		NIL			200		1.0	
199.70	199.70							



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DRILL-HOLE NO

UAK-8

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		NIL						CORE LOSS: PROBABLY SS / SAND
200.70	200.70				201		1.0	CORE LOSS:
		NIL					1.0	
201.70	201.70				202		1.05	CORE LOSS:
		NIL					1.0	
202.75	202.75				203		1.0	CORE LOSS:
		NIL					1.0	
203.75	203.75				204		1.0	CORE LOSS:
		NIL					1.0	
204.75	204.75				205		2.10	CORE LOSS:
		0.95	31%		206		0.20	CLAYSTONE: Light to gray STR 6/11, med gray NS silty through out. hard, compact, carbonaceous
					207		0.75	COAL: - Black N <sub>1</sub> Brownish black STR 2/1, brittle floxy, pyrite. (S. NO UAK-8/1/87)
							0.20	FROM 207.05 TO 208.00 (Bag No's 1, 2 & 3)
207.80	207.80				208		0.55	DIRTY COAL: Dark gray N <sub>3</sub> , brownish black STR 2/1, semi-hard compact, coaly lamination abundance clayey.
					209		1.65	SANDSTONE: Light gray N <sub>1</sub> to grayish black N <sub>2</sub> very fine to med grained, sub. angular to sub. rounded, carbonaceous; clayey at places.
					210			

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DRILL-HOLE NO

UNK-8

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
							0.65	CORE LOSS: PROBABLY SST.
210.85	210.85				211			CORE LOSS: PROBABLY SST.
					212		2.30	
		0.75	24.5%		213		0.75	SANDSTONE: Light gray NT, very light grained fine to med grained, sub. rounded to sub. angular mostly sub-rounded, contains carbonaceous & coaly lamination through out, semi. hard, semi- compact.
213.90	213.90				214		1.30	CORE LOSS: PROBABLY SST/SAND
		0.30	32%		215		0.30	SANDSTONE/SAND: J. Light gray NB, fine to med grained, sub. rounded to sub. angular mostly sub. rounded, loose & friable
215.50	215.50				216		1.04	CORE LOSS:
		1.24	85.5%				0.20	SANDSTONE: Light olive gray STB, very fine to med grained, sub. angular to sub. rounded mostly sub-rounded grains, carbonaceous coaly lamination through out, silty, clayey & shaly
216.95	216.95				7			DIRTY COAL: Olive black STB, sandy, silty, pyritic
							1.60	CORE LOSS: PROBABLY LOSS IN COAL
		N/A			218			
218.53	218.53				219		1.35	CORE LOSS: PROBABLY SST/SAND
		7%					0.0	SANDSTONE: Light gray NT, fine to med gr sub. rounded to sub. angular, semi-hard, silty, clayey.
220.0	220.0				220			

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DRILL-HOLE NO **UNK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS.. PROBABLY SANDSTONE
					221		1.10	
221.70	221.70						0.30	SANDSTONE. Light gray NT, fine to med gr. sub-rounded to sub-angular, contains clay & siderite nodule.
					222		0.85	CORE LOSS
							0.50	
223.05	223.05				223		0.50	SANDSTONE. Light gray NT, fine to med grained semi. hard, sub-rounded to sub-angular, cc. thin siltstone & siderite nodules towards base
								CORE LOSS.. PROBABLY SST / SAND
					224		1.55	
224.60	224.60							CORE LOSS.. PROBABLY SST / SAND
					225		1.35	
								CLAYSTONE. Light bluish gray SST/1. silty through out, siliceous sided.
226.05	226.05				226		0.10	CLAYSTONE. Light bluish SST/1, olive black SST/1, silty through out, carbon. ccom of places, pyritic.
							1.25	
227.30	227.30				227		0.15	CLAYSTONE. SAME AS ABOVE.
								SANDSTONE. Light gray NT, light olive gray SST/1, very fine to fine grained silty & clayey lamination through out slightly carbonaceous & coaly laminae, hard, compact, lower part contains more coaly lamination.
229.10	229.10				229		0.75	CORE LOSS.. PROBABLY SST.
								SANDSTONE. Light olive gray SST/1, fine to med grained, sub-rounded to sub-angular, contains coaly lamination.
					230		0.15	

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DRILL-HOLE NO

4AK-8

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	RECV%					
					231		2.10	CLAYSTONE. Olive black 542/1, light bluish gray 5A7/1, hard, compact, silty through out sandy at places, contain scattered carbons. cement material at places.
232.10	232.10				232		0.32	CLAYSTONE. Olive black 542/1, semi. hard compact, silty through out, contain carbonaceous & coaly flakes at places, silty, more sandy towards base.
		1.05	100%		233		0.73	SANDSTONE. Light olive gray 546/1, med gray N6, fine to med gr. sub-angular, sub-rounded, poorly sorted clayey, contain carb + coaly lamination, siderite nodule.
233.15	233.15				234		1.0	SANDSTONE. Light olive gray 546/1, med light gray N6, fine to med grained, sub-rounded to sub-angular, poorly sorted, clayey, hard & soft bands contain a siderite nodule (0.08) at middle.
		1.0	51%		235		0.95	CORE LOSS: Probably sst.
235.10	235.10				236		2.17	CORE LOSS: Probably sst.
		0.88	29%		237		0.88	SANDSTONE. Light olive gray 546/1, med light gray N6, very fine to fine grained, at places fine to med gr. silty, carbonaceous & coaly at places, hard & soft bands.
238.15	238.15				238		1.63	CORE LOSS: Probably sst.
		0.62	27.5%		239			SANDSTONE. med light gray N6, fine to med grained, sub-rounded to sub-angular poorly sorted, clayey matrix, contain siderite nodule.
					240			

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DRILL-HOLE NO

UAK-8

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	240.40						0.62	SANDSTONE
240.40							0.22	SANDSTONE: med light gray NG, fine to med gr loose & friable
		0.22	29%		241		0.53	CORE LOSS: PROBABLY SST/SAND
241.15	241.15							CORE LOSS: PROBABLY SST/SAND
		NIL	-		242		1.05	
242.20	242.20						0.78	CORE LOSS: PROBABLY SST/SAND
		0.22	22%		243		0.22	SANDSTONE: Light gray NT, fine to med gr, sub. rounded to sub. angular, clayey, siderite nodules
243.20	243.20						1.0	CORE LOSS: PROBABLY SST/SAND
		NIL	-		244		0.85	CORE LOSS: PROBABLY SST/SAND
244.20	244.20						0.20	SANDSTONE/SAND Light gray NT, fine to med gr, loose, friable sub. rounded to sub. angular
245.25	245.25						0.10	SANDSTONE: same as above, contain siderite
		0.10	10%		246		0.90	CORE LOSS: PROBABLY SST/SAND
246.25	246.25						1.0	CORE LOSS: PROBABLY SST/SAND
		NIL	-		247			CORE LOSS: PROBABLY SST/SAND
247.25	247.25						1.75	
		1.30	42.6%		249		1.20	SANDSTONE: Light gray NT, fine to med gr, sub. rounded to sub. angular mostly sub. rounded grains, loose friable
					250			

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DRILL-HOLE NO **UAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
250.30	250.30							SANDSTONE
250.30							0.60	SANDSTONE: very light gray NG, pinkish gray siltstone, sub-rounded to sub-angular, loose friable.
		0.80	26%		251			CORE LOSS: probably silt/sand
					252		2.25	
					253			
253.35	253.35						0.42	SANDSTONE/SAND: v. light gray NG, pinkish gray siltstone, loose, friable
253.35		0.70	100%				0.09	COAL: by black siltstone, loose, friable
254.05	254.05				254		0.10	CLAYSTONE (UNDERCLAY)
254.05		0.75	100%				0.09	CLAYSTONE: med dark gray NG, silty black siltstone, siltstone, scattered carbonaceous
254.80	254.80						0.25	CORE LOSS: probably claystone/siltstone
		1.60	100%		255		1.30	SILTSTONE: light brownish gray siltstone, fine brownish gray siltstone, hard, compact clayey & sandy at places, contain carbonaceous at places, more sandy towards base
256.40	256.40				256		0.30	SANDSTONE: light olive gray siltstone, fine to med grained, sub-rounded to sub-angular
256.40		0.60	100%				0.35	SANDSTONE: med gray NG, fine to med gr, clayey matrix, poorly sorted, silty at places
257.00	257.00				257		0.15	SILTSTONE/CLAYSTONE: gray siltstone, med gray NG, interbedded
		1.10	100%				1.10	SANDSTONE: light olive gray siltstone, very fine to fine, at places med grained, inter- lamination of claystone bands, contain silty laminae towards base, poorly sorted
258.10	258.10				258			SANDSTONE: light olive gray siltstone, light gray NG, fine to med grained, interbedded claystone, poorly sorted, hard & soft bands contain lamination towards base.
259.45	259.45				259		0.05	CORE LOSS: probably silt
259.45		1.25	96%				0.85	SANDSTONE: pinkish gray siltstone, very light gray NG, fine to med gr, sub-rounded to sub-angular, contain carbonaceous & clay lamination towards base
					260			

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DRILL-HOLE NO. **UAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								SANDSTONE
260.75	260.75				261		0.40	CLAYSTONE: Light bluish gray 5B7/1, semi-hard compact, silty through out contain carb matter at top.
					262		1.20	SANDSTONE: Light gray N7, very fine to fine grained, silty, semi-hard, compact, claystone bands at places.
		1.20	39.3%		263		1.85	CORE LOSS: Probably sst. as above.
263.80	263.80				264			CORE LOSS: Probably sst / SAND
		NIL			265		2.85	
266.65	266.65				266			
					267		0.95	CORE LOSS: Probably sst / SAND / CLAYSTONE
		1.10	53.6%		268		0.05	SAND / CLAYSTONE: Light gray N7, Light bluish 5B7/1.
					268		0.14	DIRTY COAL: Olive black 5Y2/1, semi-hard, compact
					268		0.20	COAL: Brownish black 5Y2/1, flaky, brittle, marcellite.
					268		0.41	CLAYSTONE: Light bluish gray 5B7/1, semi-hard compact, carbonaceous, silty, pyritic, burrowed.
268.70	268.70				269		0.30	SILTSTONE: Light bluish gray 5B7/1, semi-hard, compact, scattered carbonaceous.
					269		0.80	SILTSTONE: Light bluish gray 5B7/1, semi-hard compact, scattered carbonaceous material, sandy.
		3.00	98%		270			

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DRILL-HOLE NO. **WAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					271			SANDSTONE: Light gray NT, light bluish gray sst, v. fine to med grained, sub. rounded to sub-angular clayey matrix, poorly sorted, scattered carbonaceous matter, loosely compact.
271.75	271.75				272			CORE LOSS.. Probably sst.
		0.80	27.5%		273		2.10	
274.65	274.65				274		0.80	SANDSTONE: Light gray NT, fine to med grained sub. rounded to sub-angular, mostly sub-rounded poorly sorted, gritty, semi-hard, coaly + carbon. accretion lamination
274.65					275		0.50	SANDSTONE: Same as above. pyritic.
		0.50	16%		276		2.55	CORE LOSS.. Probably sst.
277.70	277.70				277			
		0.40	13%		278			CORE LOSS.. Probably sst.
					279		2.65	
					280			



R179

DRILL-HOLE NO. **UAK-8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS:-
280.75	280.75				281		0.40	SANDSTONE: Light gray N7, fine to med gr: gritty towards bottom, fine to med gr: sub-rounded to sub-ang.
		0.68	22%		282		2.37	CORE LOSS:- Probably sst.
					283		0.68	SANDSTONE: Light gray N7, interbedded siltstone, olive black sst, sst is fine to med grained sub-rounded to sub-angular, poorly sorted, contain carbonaceous matter at places.
285.80	285.80				284		0.43	SILTSTONE: Med dark gray N7, olive gray sst, hard, compact, sandy at places. lower part contains carbonaceous material.
		0.43	14%		285		2.57	CORE LOSS:- Probably siltstone/sst.
					286			
286.80	286.80				287			CORE LOSS:- Probably sst.
		NIL			288		3.05	
					289			
289.85	289.85				290			CORE LOSS:-

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DRILL-HOLE NO **UAK 8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS: PROBABLY SSl.
		0-20	7%		291		2.80	
					292			
292.85	292.85						0.20	SANDSTONE: Light gray N7, med dark gray N4 fine to coarse grained, contain black shale? SSt embedded coaly? flakes + partings, hard + compact
292.85					293			CORE LOSS: PROBABLY SSl.
		1-10	415%		294		0.10	SANDSTONE: Light gray N7, fine to med grained loose friable, clayey.
					295		1.00	SILTSTONE: Olive black 5Y2/1, med dark gray N4, interbedded claystone, burrowed filled with pyrite, scattered carbonaceous at places.
295.50	295.50							CORE LOSS: PROBABLY SILTSTONE
		1-26	42%		296		1.74	
					297			SILTSTONE: Light gray N7, olive black 5Y2/1, hard, compact, burrowed filled with pyrite, scattered carbonaceous, sandy at places
					298		1.26	
298.50	298.50							SILTSTONE: med dark gray N4, semi-hard compact, burrowed, pyritized wood, scattered carb.
298.90	298.90	0-40	100%				0.40	
		1-85	61%		299		1.85	SANDSTONE: Light gray N7, med gray N5, fine to med grained, sub. rounded to sub-ang. plat, hard, compact, claystone interbedded at places, slight carbonaceous, loose + friable towards base.
					300			
					1			
					2			

R181

DRILL-HOLE NO

UAK-8

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					301			CORE LOSS
							1.20	
301.95	301.95				302		0.05 0.10 0.15	CORE LOSS SANDSTONE. Light gray N <sub>1</sub> , fine to med gr, loose friable BLACK SHALE. Olive black S <sub>4</sub> 2 <sub>1</sub> , semi-hard.
		2.50	98%		303		1.50	SILTSTONE. Light bluish gray S <sub>4</sub> 7 <sub>1</sub> , hard, compact scattered carbonaceous, at places, clayey at upper part
					304		0.75	CLAYSTONE. Med dark gray N <sub>1</sub> , hard, compact carbonaceous, silty at places, silty fine sand at bottom
304.50	304.50				305			CLAYSTONE. Olive black S <sub>4</sub> 2 <sub>1</sub> , hard, compact, carbonaceous, silty at places
		3.00	100%		306		3.00	
					307			
307.50	307.50				308			CLAYSTONE. Olive black S <sub>4</sub> 2 <sub>1</sub> , hard, compact, carbonaceous, silty at places.
		3.05	100%		309			
					310			
					1			
					2			

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DRILL-HOLE NO. **UAK 8**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CLAYSTONE.
310.55	310.55						0.25	CLAYSTONE: med dark gray N4, hard, compact, silty through out, sandy towards base.
					311		0.40	
								SANDSTONE. Pinkish gray 5YR8/1, med to coarse grained, gritty, sub-rounded, claystone concretion with in the sst.
					312			CORE LOSS. Probably sst.
					313			
313.60	313.60							CORE LOSS. Probably sst.
		0.40					0.40	
314.05	314.05				314			CORE LOSS. Probably sst.
					315			
							3.05	
				NIL	316			
					317		0.15	SANDSTONE. Pinkish gray 5YR8/1, coarse to v. coarse grained, sub-rounded to sub-angular clay concretion with in the sst, gritty, granule, cobble.
317.10	317.10							
		0.05	5%		318			
							2.85	
					319			CORE LOSS. Probably sst.
					320			
					1			
					2			

R183

DRILL-HOLE NO

UAK-8

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
320.10	320.10						0.40	CORE LOSS SANDSTONE. Pinkish gray 548/L coarse-grained sub. rounded to sub-angular, hard, compact granule-cobble
		0.40	13%		321			
					322		2.50	CORE LOSS. Probably 55%
	323.10				323			
323.10					324			
		NIL			325		3.00	CORE LOSS. Probably 55%
	326.15				326			
326.15					327			
		0.25	8%		328		2.75	CORE LOSS. Probably 55%
	329.15				329		0.25 0.22	SANDSTONE. Light gray to light bluish gray medium to coarse, hard, compact siltstone or siltstone module, here, friable towards base SANDSTONE. Same as above
		0.22	7%		330			

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DRILL-HOLE NO

WAK-8

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS. Probably 5'
					331		2.25	
332.20	332.20				332			
					333		1.55	SANDSTONE light gray to light bluish gray 587/11, fine to coarse grained, sub-rounded to sub-angular, clayey pebbles with in the 55', embedded
			51%		334			
					335		1.50	CORE LOSS. Probably 5'
335.25	335.25				336			
					337		2.05	CORE LOSS. Probably 55'
					338			
338.30	338.30				339			
					340		3.00	CORE LOSS. Probably 55'
					341			
341.30	341.30				342			

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Lithologic Log

for

Drill Hole

UAK-9

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DRILL-HOLE N. **VAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								ALLUVIAL COVER (SILT) brownish gray SY 7 1/2 to light olive gray SY 5 1/2, Micaceous, soft, Ferrum magnesian grains present
2.00	2.00				2		2.00	
2.00					3		2.00	ALLUVIAL COVER (SILTY CLAY) Same as above
4.00	4.00				4		4.00	
4.00					5		2.00	SILTY CLAY, Yellowish gray SY 7 1/2 to light olive gray SY 5 1/2, Micaceous
6.00	6.00				6		6.00	
6.00					7		2.00	SAND, Light olive gray SY 5 1/2, Fine to medium grained. Subangular to subrounded. Poorly sorted, micaceous, Biotite, Muscovite present. About 85% quartz grains. About 10% Fe Mg grains.
8.00	8.00				8		8.00	
8.00					9		2.00	SAND Same as above
10.00	10.00				10		10.00	
					11			
					12			



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DRILL-HOLE NO. UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
10								SAND, Same as above.
	12							
12								SAND, Same as above.
	14							
14								SAND, Same as above.
	16							
16								SAND Same as above
	18							
18								SAND Same as above
	20							

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DRILL-HOLE NO. **UAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
22	23						2.00	SAND Same as above
23	24						2.00	SANDY, SILTY CLAY, light olive gray, 5Y 5/2, to yellowish gray 5Y 7/2. Very fine subrounded grains, micaceous Sticky. Few fine to medium size grains. Few Fe Mg mineral grains
24	26						2.00	SANDY SILTY CLAYS Same as above Sand may be from top
26	28						2.00	SANDY SILTY CLAYS Light olive gray. Same as above
28	30						2.00	SANDY SILTY CLAY, Light olive gray, 5Y 5/2, Very fine grained. Subrounded, poorly sorted. Few dark grains Micaceous Sand probably from upper strata

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DRILL-HOLE NO UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
30							2.00	SILTY SANDY CLAY Very fine, subrounded grains, sorted light olive gray 5Y 5/2. Muscovite Biotite present
32							2.00	SILTY CLAY Same as above,
34	34						2.00	SILTY SANDY CLAY, Same as above.
36	36						2.00	SILTY SANDY CLAY Micaceous, Same as above.
38	38						2.00	SILTY CLAY, Micaceous, Same as above
40	40							

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DRILL-HOLE NO. **WAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
40							2.00	SILTY CLAYS, Micaceous, Same as above.
	42							
42							2.00	SILTY CLAYS, Micaceous, Same as above.
	44							
44							2.00	SILTY CLAYS, Micaceous, Same as above.
	46							
46							2.00	SILTY CLAYS, Micaceous, Same as above.
	48							
48								SILTY CLAYS, Micaceous, Same as above.
	50							

LAK-9

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DRILL-HOLE NO

~~LAK-9~~

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
50							2.00	SILTY CLAYS, Micaceous, Same as above
51								52
52								SILTY CLAYS Micaceous, Same as above,
53								54
54								SILTY CLAYS, Micaceous, Same as above.
55								56
56							2.00	SILTY CLAYS, Micaceous, same as above,
57								58
58							2.00	SILTY CLAYS, Micaceous, same as above.
59								60

UAK-9

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DRILL-HOLE NO

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
60							2.00	SANDY CLAY, Very light gray N8 to light gray N7, Highly sandy. Micaceous. Sandy material consists of very fine to fine, subangular to subrounded quartz grains and few feldspar grains
62	62						2.00	SANDY CLAY, Same as above, slightly calcareous
64	64						2.00	SANDY CLAY, Pinkish gray 5YR 8/1 to very light gray 10Y 8 Sand grains very fine to fine, subangular to subrounded, dominated by quartz grains. Few dark grains. Calcareous. Micaceous.
66	66						2.00	SANDY CLAY, Same as above, slightly more sandy, with few coarse quartz and calcareous grains (Forams?)
68	68						2.00	SANDY CLAY, Same as above, and few Forams.
70	70							

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DRILL-HOLE NO. **UAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
71	72							<p>SANDY CLAY, Pinkish gray 5YR 8/1, to very light gray N8 Sand very fine to fine grained, with few coarse grains. Finer grains subangular, larger grains subrounded. Dominantly quartz grains. Few dark grains. Micaceous, Calcareous.</p>
72	74							<p>SANDY CLAY, Pinkish gray. 5YR 8/1 to very light gray N8 Same as above.</p>
74	76							<p>SANDY CLAY, Comparatively less sandy, light gray N7 to very light gray N8. Sand grains very fine to medium, subangular to subrounded. Rare coarse grains. Dominantly quartz grains. Few dark grains. Slightly micaceous, Calcareous.</p>
76	78							<p>SANDY CLAY, Same as above.</p>
78	80							<p>SANDY CLAY, Comparatively less sandy. Contains comparatively more dark grains. Slightly micaceous and calcareous.</p>

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DRILL-HOLE NO. **UAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
80							2.00	SANDY CLAY, Pinkish gray 5YR 8/1 to very light gray N8 less sandy than the upper sample. Calcareous Slightly micaceous.
	82							82
82							2.00	SANDY CLAY, Same as above
	84							84
84							2.00	SANDY CLAY, Pinkish gray 5YR 8/1 to Very light gray N8 Sand grains very fine to medium, subangular to subrounded. Dominantly quartz grains Few dark grains. Slightly micaceous Very slightly calcareous.
	86							86
86							2.00	SANDY CLAY, Same as above.
	88							88
88							2.00	SANDY CLAY, Pinkish gray 5YR 8/1 to very light gray N2 About 25% sand grains. Grains very fine to medium, subangular to subrounded Poorly sorted. Dominantly quartz grains. Slightly micaceous.
	90							90



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DRILL-HOLE NO.

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE					
90								Sandy clay - Pinkish gray 5YR 8/1 to very light gray N6, sandy, sand grains are fine to coarse, sub-angular to subrounded, poorly sorted, Calcareous micaceous, ferromagnesian grains present
92	92							Sandy clay - Same as above
94	94							Sandy clay - Very light gray N6, sandy, sand grains are fine to medium, sub-angular to subrounded, poorly sorted, Calcareous, micaceous, ferromagnesian grains
96	96							Sandy clay - Light gray N7 to very light gray N6, sandy, sand grains are fine to medium, sub-angular to subrounded, sorted, Calcareous, micaceous, ferromagnesian grains.
98	98							Sandstone (muddy) - Light gray N7 to medium gray N6, fine to coarse grained, sub-angular to sub-rounded, poorly sorted, Calcareous muddy, ferromagnesian grains.
100	100							

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DRILL-HOLE NO

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
100							2.00	Sandy clay - light gray N7 to very light gray N8, sandy, sand grains are fine to medium, sub angular to sub rounded, poorly sorted, calcareous, micaceous, ferruginous medium grains.
102	102						2.00	Sandy clay - same as above.
104	104						2.03	Sandy clay - Medium light gray N6 to light gray N7, sandy, sand is fine to medium grained, sub angular to sub rounded, poorly sorted, calcareous, micaceous.
106	106						2.00	Sandy clay - Medium light gray N6 to light gray N7, sandy, sand grains are
108	108						2.00	Sandy clay Same as above.
110	110							

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DRILL-HOLE NO

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
110							2.83	Sandstone (Clayey), very light grey (N8) to light grey (N7), fine to coarse grained, slightly calcareous.
	112							
112							2.00	Sandstone (Clayey) Same as above
	114							
114							2.00	Sandstone, light grey (N7) to very light grey (N8), fine to med. grained, clayey, subangular to subrounded grains
	116							
116							2.00	Sandstone Same as above
	118							
118							2.00	Sandstone, very light grey (N8) to light grey (N7) fine to coarse grained with rare coaly specks and pyrite grains
	119.50						0.10	
119.50		0.10	8%		120		1.15	Sandstone, light grey (N7) to very light grey (N8) very fine to fine grained, loose, friable with rare coaly grains
	120.75							Core Loss Sandstone
					121			

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DRILL-HOLE NO.

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE CORE%	CORE%					
120.75	120.75				121.0		0.25	Sandstone, light grey (N8) to med grey (N6) fine to med. grained, subrounded, loose and friable with some coarse content.
		0.25	14%		122.0		1.50	Core Loss Sandstone
122.50	122.50				123.0		0.20 0.15	Sandstone, very light grey (N8) to light grey (N7), fine grained with subrounded grains, loose and friable, coaly specks.
		0.35	26.9%				0.95	Sandstone, med. dark grey (N4) to (N3), fine grained with alternate thin laminae of coaly material.
123.80	123.80				124.0		0.60	Core Loss Sandstone
		0.60	19.6%		125.0		2.45	Core Loss Sandstone
126.85	126.85				127.0			
		71%			128.0		3.0	Core Loss in Sandstone
129.85	129.85				130.0			
					131.0			

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DRILL-HOLE NO

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE %	CORE %					
129.85	129.85				130.0		0.40	Sandstone, med. light grey (N6) to med. grey (N5) fine grained, subangular to subrounded grains. With some ferromagnesian block grains.
		0.40	13.1%		131.0		2.65	Core Loss Sandstone
132.90	132.90				133.0		0.33	Sandstone, light grey (N7), coarse grained, subangular to subrounded grains, rare corby traces, loosely compact and friable.
		0.33	10.8%		134.0			Core Loss Sandstone
135.95	135.95				136.0		0.40	Core Loss Sandstone
		1.30	28.9%		137.0		0.98	Sandstone, light grey (N7), med. to coarse grained subangular to subrounded grains, with rare corby specks, loose and friable.
137.65	137.65				138.0		0.32	Claystone, med. grey (N5), med. hard, med. compact slightly sandy with minor corby material.
		1.35	10.0%		139.0		1.35	Claystone, med. grey (N5), med. hard med. compact. Slightly sandy but more towards base where 0.05 m. thick siltstone band exists.
139.0	139.0				139.0			

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DRILL-HOLE M

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
139.00					139.00		0.20	Claystone, brownish grey (5YR 4/1), med. hard, med. compact. Slightly silty with rare carby specks, grading to s.s. towards base
							0.78	
		1.05	34.4%		140.00		0.05	Sandstone, med. dark grey (N4), semi hard & semi compact; interlayered with thin clayey contents, mostly fine grained with sub-rounded grains & minor carby specks.
					141.00		2.00	S. Stone, greyish orange (10YR 7/4), very hard and compact, med. to coarse grained with subrounded grains.
								Core Loss
142.05	142.05				142.00			
					143.00		2.85	
		0.20	6.5%		144.00			Core Loss Sandstone
					145.00		0.20	Sandstone, light grey (N7), fine to coarse grained, mostly subrounded grains, loose friable, slightly clayey towards base.
145.10	145.10				145.00		0.50	
		0.50	35.7%		146.00		0.90	Sandstone, (N7) Same as above but with rare carby contents.
								Core Loss
146.50	146.50				146.00		0.15	Core Loss
					147.00		1.25	Claystone, brownish black (5YR 2/1), med. hard, med. compact. Slightly silty containing minor carby contents.
		1.25	89.2%					
147.90	147.90				148.00		0.76	Claystone, brownish grey (5YR 4/1), med. hard and compact. Sandy at places with thin carbonaceous laminae, pyritic & resinous.
					149.00		0.64	Sandstone, very light grey (N8), fine to med. grained, subrounded grains, loose and friable.
		1.40	55.9%					Core Loss Sandstone
					150.00		1.65	
150.95	150.95				150.00			

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DRILL-HOLE NO. **UAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
150.95	150.95				151.0		1.60	Core Loss Sandstone
		1.45	37.5%		152.0		1.45	Sandstone, light grey (N7) fine to med. grained, subrounded grains loose & friable with rare black mineral grains.
154.0	154.0				154.0		0.55	Sandstone light brownish grey (5YR 6/1) fine to med. grained, subrounded grains with disseminated carbonaceous material at base 0.10 highly carbonaceous sandstone of brownish black (5YR 2/1) colour.
		0.55	18%		155.0		2.50	Core Loss
157.05	157.05				157.0			Core Loss
		0.80	26%		158.0		2.25	Sandstone med. light grey (N6), fine to med. grained, loose and friable
					159.0		0.20	Sandstone (carbonaceous) brownish-black (5YR 2/1) loose, friable with rare coarse silica grains.
							0.10	
							0.50	
160.10	160.10				160.0			Sandstone, med. light grey (N6) loose to semi compact, mostly fine grained with minor clayey contents.

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DRILL-HOLE NO.

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	RECOVERY					
160.10	160.70						0.60	Sandstone, light grey (N7), fine to coarse grained with subrounded grains, loose friable containing rare black mineral grains.
		0.60	20%		161.0		2.40	Core Loss Sandstone
163.10	163.16				163.0		0.20	Core Loss Sandstone
		1.45	82.8%		164.0		1.45	Sandstone, very light grey (N8), fine to medium grained, subrounded to rounded grains, loose friable, towards base exists carby material.
164.75	164.75				165.0		0.10	Sandstone, intercalated with carbonaceous laminae, brownish black (5YR 4/1), coarse grained med. hard & compact.
		1.40	82.5%		166.0		1.30	Sandstone, light olive grey (5Y 6/1), fine to med. grained, subrounded to rounded grains, loosely compact, friable, towards base 0.25 m. disseminated carbonaceous material exists.
166.35	166.35				167.0		0.20	Core Loss Sandstone
		0.45	28%		167.0		1.15	Core Loss Sandstone
167.95	167.95				168.0		0.45	Sandstone, light brownish grey (5YR 6/1), loose to loosely compact, friable, med. grained subrounded grains, slightly clayey, at places carbonaceous material disseminated.
		1.00	55%		169.0		0.10	Core Loss
169.0	169.0	0.30	10%		169.0		0.10	Sandstone, med. grey (N5) to brownish grey (5YR 4/1), med. hard, med. compact, fine grained, at places carby flakes encountered.
169.35	169.35	0.40	22.7%		170.0		0.80	Sandstone, medium light grey N6 to light grey N7, fine to medium grained, subangular to subrounded, poorly sorted, crin. and carby flakes.
169.85	169.85	2.15						CORE LOSS IN SANDSTONE
								Sandstone, very light grey N8 to pinkish grey 5YR 8/1, fine grained, subrounded, sorted, carby flakes, hard, compact.
								Sandstone, light grey N7 to yellowish grey 5YR 8/1, medium grained, subrounded, sorted, very hard, well compact.



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DRILL-HOLE NO

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		2.15	82.6%		171		2.15	Sandstone - light gray to yellowish gray, medium grained, subrounded, sorted, very hard, well compact.
172	172.45				172		0.45	CORE LOSS IN SANDSTONE
					173		2.90	Sandstone, light gray to very light gray (No.)
		0.10	3.3%		174			CORE LOSS IN SANDSTONE
175	175.45				175		0.45	Sandstone,
		0.45	14.7%		176		2.60	CORE LOSS IN SANDSTONE
178.50	178.50				178			
178.50		0.70	22.9%		179		2.35	CORE LOSS IN SANDSTONE
					180			

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DRILL-HOLE NO

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
								CORE LOSS IN SANDSTONE
							2.35	
		0.70	22.9%		181		0.90	Sandstone, light gray N <sub>7</sub> to very light gray NE, very fine to fine grained subrounded, hard, sorted, carb. spec.
181.55	181.55						0.20	Sandstone, dark yellowish brown 10YR 4/2, v. fine to coarse, hard, carb.
					182			CORE LOSS IN SANDSTONE
							3.05	
		NIL	0%		183			
					184			
184.60	184.60						0.10	Sandstone - Dark yellowish brown 10YR 4/2, very fine to coarse grained, soft, loose, friable.
		0.10	9.5%		185		0.95	CORE LOSS IN SANDSTONE.
185.65	185.65							
		1.60	84.2%		186		1.60	Sandstone clayey, med. light gray (N6), med. hard to hard & med. compact, fine to med. grained with subrounded grains, at places small bit silic. hard inclusions and very coarse carb. contents encountered, grading to s.s.
					187			CORE LOSS, SANDSTONE.
187.55	187.55						0.30	
187.55	187.55				188			CORE LOSS SANDSTONE
		0.50	16.3%		189		2.55	
					190			
190.60	190.60						0.50	Sandstone, light olive gray (5Y 6/2) loose, friable, fine grained to medium grained, subrounded grains, some fossiliferous, black grains too seen.

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DRILL-HOLE NO **UAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
190.60	190.60						0.20	Sandy clay, brownish grey (5YR 4/1), Sand is fine grained. It contains base Carby content and hard siderite nodule.
					191.0		0.33	Carbonaceous shale, brownish black (5YR 2/1) Soft to med. Compact, silty with comparatively low sp. gravity.
		3.05	100 %		192.0		1.35	Claystone, brownish grey (5YR 4/1), med. hard, med. Compact with abundant carbonaceous flakes slightly silty.
					193.0		1.12	Claystone, sandy, med. light grey (N6), med. hard, med. Compact to fairly compact, more sandy at places. Sand is fine grained, base carby content.
193.65	193.65				194.0			Claystone, silty, brownish grey (5YR 4/1), med. Compact to compact, med. hard, with carby flakes more sandy towards base, carby material is resinous.
							1.90	Core Loss
		1.10	33.3 %		195.0			Claystone, light bluish grey (5B 7/1), medium hard, medium compact, slightly silty, Containing base coarse grains of sandstone and some hard nodules found.
					196.0		1.10	
196.65	196.65				197.0		0.37	Claystone, light brownish grey (5YR 6/1), medium hard, medium compact and slightly silty.
							0.70	Claystone silty, light bluish grey (5B 7/1) med. hard to hard, medium compact at places it is sandy.
		2.0	66.6 %		198.0		0.93	Claystone, silty, brownish grey (5YR 4/2), medium hard, medium compact with small sandy parting and base carbonaceous flakes.
					199.0		1.0	Core Loss
199.65	199.65				200.0			

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DRILL-HOLE NO

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
199.65					200.0		0.35	Sandstone, light olive grey (5Y 6/1), slightly clayey, medium hard to fairly hard & compact, fine grained with rare carbonaceous grains.
					201.0		2.70	
					202.0			
202.70	202.70				203.0			Core loss Sandstone
					204.0		2.85	
					205.0			
205.75	205.75				206.0		0.20	Sandstone, light grey (NT), fine grained rounded to subrounded grains loose, friable with some black mineral grains.
					207.0			
					208.0			
208.80	208.80				209.0		0.20	Sandstone, light olive grey (5Y 6/1) fine to medium grained, subrounded to rounded grains, loose, friable with rare ferromagnesian black grains and rare carbonaceous grains.
					210.0			

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DRILL-HOLE NO

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE % <sup>1</sup>	CORE % <sup>2</sup>					
208.80		0.20	6.55%		209.80		0.20	Sandstone, light grey (N7), fine to medium grained, subangular to subrounded grains loose, friable with rare carbonaceous broken flakes
					210.00		2.85	Core Loss
					211.00			
211.85		0.20	6.55%		212.00		0.20	Sandstone, light grey (N7) to very light grey (N8), fine to medium grained with some coarse silt grains, loose, friable subangular to subrounded grains and containing rare carbonaceous broken flakes
					213.00		2.85	Core Loss
					214.00			
214.90					215.00		0.67	CORE LOSS
					216.00		0.08	Sandstone - Light gray N7 to very light gray N8, fine-medium grained, subangular to subrounded, poorly sorted, soft, loose friable, calcy and carb. spec.
		2.38	28%		217.00		1.30	Claystone - Light bluish gray SB 7/1, hard, compact, silty at places, sandy at places, calcy and carb. spec.
					218.00		1.0	Siltstone - Light bluish gray SB 7/1, sandy, hard compact clayey at places, carb. spec., rare pyrite grains.
218.95					219.00		0.55	Claystone - Light bluish gray SB 7/1, hard, compact, silty slightly sandy, 10 cm lower part is carbonaceous
		1.15	100%		219.00		0.24	COAL SEAM - Grayish black N2 to brownish black SYR 2/1, black, lustrous, pyritic, vitreous texture
219.10					219.00		0.36	Shale (Carby) - Dark gray N3 to grayish black N2, hard, compact carb. and carb., carb. laminae frequent
219.10					220.00			

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DRILL-HOLE NO

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
219.10		2.0	100 %		220.0		2.0	Claystone, medium grey (N5), medium Compact, medium hard, slightly silty, slicken sided, minor carbonaceous flakes observed
	221.10				221.0			Claystone, medium grey (N5), medium Compact, medium hard, slicken sided, slightly silty with minor scattered casby material.
221.10		3.05	100 %		222.0		1.85	Claystone, medium dark grey (N4) to greyish black (N2), medium hard & Compact, containing carbonaceous material. 0.05 is highly carbonaceous, resinous and flaky, claystone is more silty towards base.
					223.0		0.40	
	224.15				224.0		0.80	Claystone, medium light grey (N6), med. hard, med. Compact, silty with minor casby material grading to more sandy towards base.
224.15					225.0		0.30	Claystone Sandy, med. light grey (N6) med. hard and Compact, sand is fine grained with minor amount of casby material seen.
		3.05	100 %		226.0		1.15	Sandstone light bluish grey (5B 7/1) to med. grey (N5) Compact & med. hard, fine grained with subangular grains, towards top clayey, minor casby material.
					227.0		1.60	Sandstone, light olive grey (5Y 6/1) fine grained subangular to subrounded grains, loosely Compact to Compact, med. hard to friable at base.
227.20					228.0			Light brownish grey 0.25 dominating claystone
227.20		2.50	83.3 %		229.0		2.50	Sandstone, light olive grey (5Y 6/1), fine to med. grained, loose to loosely Compact friable, subangular to rounded grains along with some coarse grains.
					230.0			
230.20					230.0		0.50	Core loss Sandstone

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DRILL-HOLE NO **UAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	ORE %					
230.00								CORE LOSS
		0.25	8.1%		231.0		2.80	
					232.0			
					233.0		0.25	Sandstone - Brownish gray 5TR 4/1, fine to medium grained, Subangular to sub rounded, carbonaceous, and
233.25	233.25						0.70	Claystone - Brownish gray 5TR 4/1 to brownish black 5TR 2/1, with sandstone layers, medium hard, medium compact, contains carbonaceous flakes, sand is fine to coarse grained
		0.70	22.9%		234.0			CORE LOSS
					235.0		2.35	
					236.0			
236.30	236.30							CORE LOSS
		1.60	52.4%		237.0		1.45	
					238.0		1.60	Claystone - Light bluish gray 5B 7/1, medium compact medium hard, slightly silty.
					239.0			
239.35	239.35							Claystone - same as above
		1.40	96.5%		240.0		1.40	
240.80	240.80							CORE LOSS

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DRILL-HOLE NO

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE %	CORE %					
					240			
240.80		0.40	25%		241		1.20	CORE LOSS
	242.40				242		0.40	Claystone - Light bluish gray SB 7/1, medium hard, medium compact, billy
242.40		2.61	85%		243		2.61	Siltstone - Light bluish gray SB 7/1, hard, compact, clayey, sandy at places, coaly and carbony effects, rusty brown coloured patches
	245.65				244			
					245		0.44	CORE LOSS
245.65		3.05	100%		246		3.05	Siltstone - Light bluish gray SB 7/1, hard, compact, clayey, very sandy in lower one meter, and grains are fine, sub rounded, very rare carbony and coaly effects
	248.5				247			
248.5		1.36	60.7%		248		1.36	Claystone, brownish grey (5YR 4/1), Semi Hard, Semi Compact, slightly billy, towards top it is sandy, containing minor carbonaceous flecks
					249			
	250.74				250		0.88	CORE LOSS
250.74					251.0			Claystone sandy



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DRILL-HOLE NO **UAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
250.74					250.74		0.30	<p>Sandstone, very light grey (N8) fine grained subrounded to bounded grains, loose, friable with some black mineral grains.</p> <p>Core Loss Sandstone</p>
			0.30	10 1/2	250.74		2.70	
					253.74			
253.74					253.74		3.05	<p>Core Loss Sandstone</p>
			NIL	NIL	253.74			
					256.79			
256.79					256.79		1.52	<p>Core Loss</p> <p>Sandstone, light olive grey (5Y 6/1) fine to medium grained, subrounded to rounded grains, loose and friable.</p>
			1.53	50 1/2	256.79		0.33	
					259.84		1.20	
259.84					259.84			<p>Claystone, brownish grey (5YR 4/1) to med. grey (N5) medium hard, medium compact, slightly silty and carbonaceous in middle.</p>
					260.0			

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DRILL-HOLE NO.

UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
259.84					260.0			Siltstone, medium light grey (N6) clayey, medium hard, medium compact with sandy contents, more clayey towards base
			2.75		261.0		2.75	
			50.1%		262.0			
262.89							0.30	Core Loss
262.89					263.0		0.63	
			0.78		264.0		0.15	
			28%		265.0		2.2	Claystone, sandy, brownish black (5Y 2/1) Carbonaceous, medium hard, medium compact; sand is medium to coarse grained.
265.89					266.0			
265.89					267.0		3.05	
			NIL		268.0			Core Loss
			NIL		269.0			
268.94								
268.94								

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DRILL-HOLE NO **UAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
268.98					269.0			<i>Core Loss</i>
		NIL	NIL		270.0		3.05	
					271.0			
					272.0			
271.99	271.99				272.0			<i>Core Loss</i>
		NIL	NIL		273.0		3.05	
					274.0			
					275.0			
275.04	275.04				275.0			<i>Core Loss</i>
		NIL	NIL		276.0		3.00	
					277.0			
					278.0			
278.94	278.94				278.0			<i>Core Loss</i>
					279.0			
					280.0			
					281.0			

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DRILL-HOLE NO **UAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
278.04					278.00			
		NIL	NIL		279.00		3.00	Core Loss
		NIL	NIL		280.00			
281.04					281.00			
281.04					282.00		3.00	Core Loss
		NIL	NIL		283.00			
284.04					284.00			
284.04					285.00		3.00	Core Loss
		NIL	NIL		286.00			
284.04					288.00			
					289.00			

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DRILL-HOLE NO UAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
284.04					284.0			Core Loss
		NIL	NIL		285.0		3.00	
					286.0			
287.04					287.0			Core Loss
		NIL	NIL		288.0		3.00	
					289.0			
290.04					290.0			Core Loss
		NIL	NIL		291.0		3.00	
					292.0			
293.04					293.0			

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DRILL-HOLE NO

WAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
293.44					293.44			
		0.70	25.4%		294.14		2.05	
					295.19		0.70	
295.19					295.19			
		3.0	98.3%		298.19		3.0	
298.19					298.19			
		2.80	91.8%		300.99		2.55	
300.99					300.99			
					301.79			
301.79					301.79			

Core Loss

Sandstone, yellowish grey (5Y 8/1)  
medium to coarse grained, subrounded  
to rounded grains. med. hard to fairly  
hard, loose to compact, at places very  
coarse grained, minor carbony contents  
too observed

Core Loss Sandstone

Siltstone, light bluish grey (5B 7/1)  
argillaceous, mottled with dark reddish  
brown (10R 3/4) ferruginous?  
med. hard, med. compact, sandy to  
loose base.

Core Loss Sandstone

Claystone, light brownish grey (5YR 6/1)  
slightly silty with minor carbony contents

Claystone, med. light grey (N6) inter-  
layered with siltstone, some fine grained  
s.s. stone spotted with greyish brown  
(5YR 3/7) selenite.

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DRILL-HOLE NO **UAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	RECOVERY %					
<del>301.80</del>	<del>302.80</del>	<del>2.96</del>	<del>100 %</del>		<del>302.80</del>	<del></del>	<del>2.96</del>	<del></del>
<del>302.80</del>	<del>303.80</del>	<del>2.96</del>	<del>100 %</del>		<del>303.80</del>	<del></del>	<del>2.96</del>	<del></del>
<del>303.80</del>	<del>304.85</del>	<del>2.96</del>	<del>100 %</del>		<del>304.85</del>	<del></del>	<del>2.96</del>	<del></del>
304.85	305.85	2.80	100 %		305.85		1.70	Siltstone, light grey (NY) at places clayey, spotted with greyish brown (10R4/2) colour, med. hard, med. compact.
305.85	306.85	2.80	100 %		306.85		1.70	Siltstone, light bluish grey (5B7/1) Semi hard, semi compact, at places Sandy, sand is fine grained with subrounded grains
306.85	307.75	0.85	30.3 %		307.75		1.10	Claystone, sandy
307.75	308.85	0.85	30.3 %		308.85		0.10	Core Loss
308.85	309.85	0.85	30.3 %		309.85		0.85	Sandstone, light olive grey (5Y6/1), med. hard & compact, slightly clayey, barely congl.
309.85	310.85	0.85	30.3 %		310.85		1.95	Core Loss Sand
310.85	311.85	0.85	30.3 %		311.85			
311.85	312.85	0.85	30.3 %		312.85			

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DRILL-HOLE NO **OAK 9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					310.0			
					311.0			
		NIL	NIL		312.0		2.85	Core Loss
					313.0			
	313.40				314.0			
		NIL	NIL		315.0		2.90	Core Loss
					316.0			
	316.30				317.0		0.65	Sandstone, med. light grey (NG) med. hard, to hard, loose to compact, fine grained with rare black mineral grains.
		0.65	22.4%		318.0		2.25	Core Loss Sand
					319.0			
	319.80				320.0			



B219

DRILL-HOLE NO **UAK-9**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE %	CORE %					
319.40					319.40			
		0.20%			320.00		2.65	Core Loss Sand
					321.00			
322.05					322.05		0.80	Sandstone, very light grey (N8) fine to med. grained, subrounded grains loose & friable
322.05					323.00			
		0.25%	8.1%		324.00		2.80	Core Loss Sand
					325.00			
325.10					325.10		0.25	Sandstone, med. light grey (N6) fine to med. grained, with subrounded grains, loose to compact & friable
		0.35%	28%		326.00		0.90	Core Loss
326.35					326.35		0.35	Claystone, silty, light grey (N7) mottled with dark reddish brown (10R 3/4) (Ferguson?) Colour, sandy towards base
		1.80%	39%		327.00		1.25	
					328.00			Core Loss
					329.00		1.80	Claystone, silty, light grey (N7) mottled with reddish brown (10R 3/4) Colour, med. hard, med. compact sandy towards base
329.40					329.40			

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DRILL-HOLE NO

WAK-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
329.40					329.40			Siltstone, clayey, light bluish gray (5B 7/1) med. hard; med. compact, slightly mottled with reddish brown color sandy towards base
		0.90	29.5%		330.0		0.90	
					331.0		2.15	Core Loss
					332.0			
332.45					332.45			Core Loss
333.46					333.46		0.60	
		1.20	56.6%		333.46		0.80	Sandstone - Light bluish gray 5B 7/1, fine to medium grained, sub rounded to rounded, medium hard, loosely compact, grading down to claystone
					334.0		0.40	Claystone - Medium light gray N6, semi hard, semi compact slightly silty, mottled by dark reddish brown 10R 3 1/4 colour,
334.25					334.25		0.07	Claystone - Medium light gray N6, semi hard, semi compact slightly silty, mottled by dark reddish brown 10R 3 1/4 colour
		0.07	2.2%		335.0			Core loss
					336.0		2.98	
					337.0			
337.34					337.34			Claystone - (Silty) Medium light gray, mottled with dark reddish brown 10R 3 1/4, medium hard, medium compact
		2.83	94.3%		338.0		1.75	
					339.0		0.18	Sandstone - Light brownish gray 5YR 6/1, fine to medium grained, with sub rounded grains, loose, friable
					340.0		0.83	Claystone - Medium light gray N6, loosely compact, sand, sand grains are fine, sub rounded.
340.30					340.30		10.24	CORE LOSS IN SANDSTONE

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DRILL-HOLE NO.

44K-9

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
					340			
	340.30				341			Core Loss IN Sandstone
		0.10	3.3%		342		2.90	
					343			
343.30	343.30						0.10	Sandstone - light gray N7, fine to medium grained, loose to loosely compact
	343.30	0.15	20%				0.60	Core Loss IN Sandstone
344.05	344.05				344		0.15	Claystone - light bluish gray SB 7/1, medium hard, medium compact, slightly silty
	344.05							Core Loss IN Claystone
		0.60	20%		345		2.40	
					346			
347.05	347.05				347		0.60	Claystone - light bluish gray SB 7/1, med. hard, medium compact, slightly silty, mottled with dark reddish brown to R 3/4, some ferrogenous material.
	347.05						0.20	Claystone - Same as above
		0.20	6.66%		348			
					349		2.80	Core Loss IN Claystone.
350.05	350.05				350			
	END							

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Lithologic Log

for

Drill Hole

UAK-10

P. 223

DRILL-HOLE NO. **UAK-10**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
NON CORING					0			Alluvium Silt, clay and very fine Sand.
					1			
					2			Alluvium clay, silt and very fine sand
					3			
					4			Alluvium Same as above.
					5			
					6			Alluvium Silt and Fine Sand.
					7			
					8			Alluvium. - DO -
					9			
					10			
					11			
	12							

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DRILL-HOLE NO. UAK-10

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					12			Alluvium. silt and fine sand.
					14			Alluvium: silt and fine sand, slightly clayey and micaceous.
					16			Alluvium Sand; very fine and silty. Sand $1/16 - 1/8$ mm.
					18			BARA FORMATION (Contact) Sand-stone: very fine grained about $1/16 - 1/8$ mm in size.
					20			Sand-stone Same as above.

ALLUVIUM

CORING

NON

BARA FORMATION

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DRILL-HOLE NO. 4AK-10

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								Sand - stone: Medium Light gray N-6. Fine - grained.
					22			Sand-stone Same as above
					24			Sand-stone: Medium light gray N-6. Fine grained with few black green Fe, Mg mineral grains. slightly micaceous.
					26			Sandstone. Medium gray N-5. Consists of Qtz grains, about 90%. Black brown - and green Fe, Mg. mineral grains about 8-10%, few mica grains also observed, Qtz grains are clear or transparent & translucent - Qtz grains are mostly equigranular. Moderately sorted. Fine grained.
					28			Sandstone: Same as above.
					30			

NON-CORING

R226

DRILL-HOLE NO. **UAK-10**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								Sandstone: Same as above. Quartz grains are fine to medium grained
					32			Sandstone Same as above.
					34			claystone silty. fale yellowish brown. 10YR 5/2 claystone silty and micaceous.
					36			Siltstone/sandy, clayey fale yellowish brown, 10YR 6/2. Siltstone sandy and clayey, with mica flakes - clear Qtz, sand with few black-green Fe Mg mineral grains sand fine grained upto 1/4 mm in size.
					38			Siltstone sandy and clayey same as above.
					40			

NON-CORING



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DRILL-HOLE NO. **LIK-10**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
40.0								<p>CORE LOSS: Probably at the top of the run.</p> <p>SANDSTONE:- Medium dark gray N4. very loose sand. Medium grained. About 50% Qtz grains - very clear and transparent. S-st is mica-ceous. (Both Biotite and Muscovite. Qtz grains are equigranular, subangular to sub rounded. Moderately sorted.</p>
	41.05		70%					
41.05			66%					CORE LOSS
		0.50	16%					<p>SANDSTONE:- Medium gray N-5. Fine to medium grained. Qtz more than 90%, equi granules - subangular to sub rounded. Translucent to transparent. Few, black brown and green-Fe Mg mineral grains, which may be 10%. some flakes of mica are also observed. sand is loose and friable - moderately sorted.</p>
	44.10							
44.10								<p>CORE LOSS: core loss probably at the top of the run due to very loose sandstone</p>
		0.20	6.55%					
								SANDSTONE: same as above
	47.15							CORE LOSS
47.15								
		0.00	0%					
	50.20							

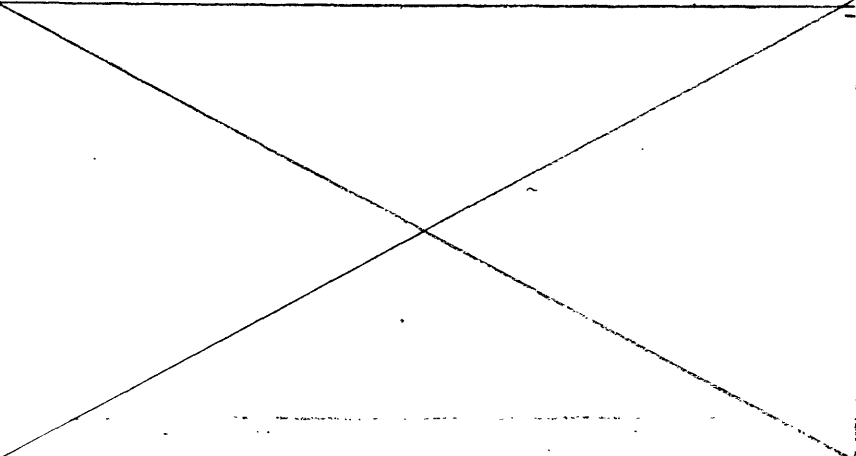
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DRILL-HOLE NO. **unk-10**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
50.20					50			CORE LOSS
		0.00	0%		51			
					52			
	53.20				53			CLAY/SILTY:- Medium dark gray N4 Plastic, sticky, silty and very slightly - Sandy. Sand is very fine grained. vfl.
53.20		0.45	15%		54			
					55			
	56.20				56			CORE LOSS: Probably at the bottom of the run, due to loose sand.
56.20					57			
					58			
	59.25	1.30	43.33%		59			CLAY/SILTY: Medium dark gray N-4. sticky, silty and very slightly Sandy. The lower 10-c.m. clay is of greenish gray 5GY 6/11 Colour fossiliferous. Fossil Shell fragment of Pteropods (Bivalves).

R229

DRILL-HOLE NO UAK-10

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
59.25			0.70		59.25			<p>CLAY/SILTY/SANDY: Moderate yellowish brown 10YR 5/4. Top 0.05m is greenish gray, 5GY 6/11. Clay is very sticky, silty and slightly sand. Sand grains are very fine. one siliceous nodule with few forams was also found at the bottom of the run.</p> <p>CORE LOSS: Core loss probably at the bottom of the run.</p>
	62.30		22.95%		60			
					61			
62.30			0.00		62			<p>CORE LOSS: Probably due to clay.</p>
	65.30		0%		63			
					64			
65.30			0.30		65			<p>CORE LOSS: At the top of the run, probably due to the loose sand.</p> <p>SANDSTONE: Light olive gray 5Y 5/2. Loose and friable sand medium to coarse grained. About 95% Qtz grains, which are sub-angular to subrounded, mostly transparent. few are yellow in colour. Black, green and brownish Fe/Mg mineral grains are about 3%. The lower portion of the run i.e. 0.10m is limonetic sand which slightly clayey and the colour is dark yellowish orange 10YR 6/6.</p>
	68.35		9.83		66			
					67			
					68		0.30	
					69			

R230

DRILL-HOLE NO. **WAK-10**

CORE RECOVERY				WATER LOSS	DEPTH IN METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
68.25								<p>CORE LOSS: Probably at the top of the run due to very loose sand.</p> <p>CLAY/SILTY/SANDY: Medium gray N-5 sticky &amp; silty, sand is mostly in pockets or burrows? Clear grains of Qtz, subrounded to rounded. In the lower portion of the run Carbonaceous matter is observed in the form of specks. At the end of run - a hard and compact nodule (0.10 x 0.05 m) of silt and sand stone is observed, which contains some coaly specks.</p>
		0.70	22.95		69			
					70			
	71.40				71			<p>SILTSTONE:- Brownish gray SYR 4/1 slightly hard and compact, fossiliferous - (plant fossils only) and leaf impressions sliken-sided, slightly Carbonaceous. At the bottom and in the middle of the run sand stone nodules (0.11 m &amp; 0.05 m - respectively) are present. which are hard, compact and very heavy.</p> <p>CORE LOSS:- Probably at the bottom of run.</p>
71.40		0.45	151		72			
					73			
					74			
	74.45							CORE LOSS
74.45		0.00	0%		75			
					76			
					77			
	77.50							

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DRILL-HOLE NO. **WAK-10**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
77.50					77			<p>CORE LOSS: Probably at the top of the run, due to loose sand.</p> <p>SANDSTONE/CARBONECEOUS: Medium gray NS sandstone interlaminated with coal, sand is mostly medium grained, Quite a few are coarse grained upto 0.5 mm. coaly films, plant fossils and pyrite grains are present. Few layers of siltstone observed.</p>
	80.55	0.30	9.83 %		78			
	80.55				79			
	80.55				80			
	83.55	0.00	0.00 %		81			<p>CORE LOSS: Probably due to loose sand.</p>
	83.55				82			
	83.55				83			
	83.55				84			
	85.00	0.35	24.13		85			<p>SANDSTONE: Medium gray N-S. Sandstone is slightly carboneaceous. At the top and bottom there are sandy silty nodules which are pyritic and carby. coal is interlaminated with s. st. s. st. is muddy &amp; slightly soft, consists of transparent Qtz.</p> <p>CORE LOSS: Probably at the bottom of run.</p> <p>MUDSTONE/SANDY/SILTY: Medium gray NS slightly pyritic and carboneaceous, Quite a few animal burrows and plant fossils observed. slightly silty. Mud stone is hard and compact.</p>
	85.00				86			
	85.00				87			
	86.55	1.55	100%		88			

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DRILL-HOLE NO. **UAK-10**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
86.55	88.75	2.20	100%		86.55 88.75			<p><b>MUDSTONE/SANDY/SILTY</b>: Medium light gray N-6 slightly Carbonaceous, Sliken-sided. Plant fossils observed.</p> <p><b>CARBON SHALE</b>: Grayish black N-2. Pyrite rare. Few - Unidentified fossil fragment, plant fossils and - coaly films are observed.</p> <p><b>UNDERCLAY</b>: Medium gray N-4 Coal specks and plant fossils are very common, Rooted and Sliken-sided.</p> <p><b>COAL</b>: - Grayish black N-2. PYRITIC and rasonous</p> <p><b>UNDERCLAY</b>: - Medium light gray N-6 Hard Compact, silty, Sliken-sided, and rooted.</p>
88.75	91.80	3.05	100%		88.75 91.80			<p><b>SILTSTONE/MUDDY/SANDY</b>: - Medium gray N-5 Rooted, Contains few Coal specks and very fine sand, Hard and Compact, At the end of the run it becomes slightly Carbonaceous.</p>
91.80	92.65	0.85	37.64%		91.80 92.65			<p><b>SILTSTONE</b>: - Medium dark gray N-4. (same as above) Lower portion is more Carbonaceous</p> <p><b>COAL SHALE</b>: - Grayish black N-2. Shaley, Soft &amp; Light.</p> <p><b>COAL LOSS</b>: - Core loss probably coal is washed.</p> <p><b>UNDERCLAY</b>: - Medium dark gray N-4 slightly silty with few coal specks. Few plant roots also observed.</p>
92.65	95.70	2.90	95.08%		92.65 95.70			<p><b>SILTSTONE/SANDY/MUDDY</b>: - Medium gray N-5 Rooted burrowed, Contains silty sideritic nodules &amp; plant fossil</p> <p><b>SILTSTONE/MUDDY/SANDY</b>: - Dark gray N-3 Hard, Compact, Carbonaceous, and burrowed. It contains fine grained sand packets. The lower portion is more sandy and becomes s.s. Cross Laminated.</p> <p><b>MUDSTONE</b>: - Medium dark gray N-4, silty &amp; sandy Hard Compact and rooted. Contains very fine sand grains in patches &amp; pocket in the upper Clayey portion of the run. The lower portion of the unit - becomes Carbonaceous slightly.</p>
								CORE LOSS

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DRILL-HOLE NO. **UAK-10**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
95.70	98.75	1.12	36.72%		95.70 96 97			<p>CORE LOSS: At the top of the run due to sand?</p> <p>INTELAMINATED SANDSTON &amp; CARBY SHALE Carby shale is medium dark gray N-4. Hard &amp; compact, Resonous. Sand fine grained equigranular.</p> <p>COAL: Block N-1, Laminate, light in weight, very slightly pyritic and rasoneous.</p> <p>UNDERCLAY / SILTY / MUDDY: Gray N-5 At places Carboneaceous, or Coaly specks - are observed. Rooted and slickensided Hard and Compact.</p>
98.75	101.80	3.05	100%		98 99 100 101			<p>MUDSTONE / SILTY / SANDY:- Light gray N-7 Hard Compact, Contains Carboneaceous matter at the top Grades into fine grained sandstone.</p> <p>SILTSTONE :- Medium light gray N-6 Hard and compact, Contains plant and leaves impressions and coal specks. Rooted and slickensided Grades into Mud stone</p> <p>MUDSTONE / SILTY / CLAYEY :- Medium Light gray N-5 to medium gray N-5. Hard &amp; compact, Rooted, Burrowed, Contains some Carboneaceous matter, Middle part of the run is more sandy, Last few centimetre of the run is more clayey and Carboneaceous.</p>
101.80	104.85	2.25	73.77%		102 103 104			<p>CARBONECEOUS SHALE: Gray black N-2, slightly hard &amp; compact and pyritic Contains plant fossils silty &amp; slickensided</p> <p>COAL: Grayish black N-2, Pyritic, Resonous, and Laminated</p> <p>SILTSTONE CARBY:- Brownish black, SYR 2/1 Hard, compact, slightly muddy, highly carboneaceous. Resonous and clayey. Towards the bottom grades into under clay.</p> <p>UNDERCLAY:- Medium dark gray N-4. Rooted, slightly Carby, Hard &amp; compact. Slickensided, Coal specks rare. slightly silty and cross laminated. Lower portion more silty.</p> <p>SANDSTONE / SILTY :- Medium light gray N-6. Hard &amp; Compact slightly Carby, sandy towards the bottom, Sand is mostly of qtz grains, which are well rounded &amp; well sorted.</p> <p>CORE LOSS: Probably at the bottom of run due to lose sand.</p>

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DRILL-HOLE NO. **NAK-10**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
104.85	107.90	3.05	100%		105			SILTSTONE/SANDY/MUDDY: Medium gray N-5 Hard and compact. The middle portion of the unit is - more sandy and becomes fine grained sand stone consisting of qtz entirely, qtz grains are transparent and equigranular. The unit is clayey towards bottom. slightly burrowed & carbonaceous
					106			COAL:- Black N-1 Resinous. Pyritic. Hard & Compact Streak dark brown, slightly heavy.
					107			UNDERCLAY/SILTY: Medium gray N-5 Rooted. Sliken-sided. very slightly pyritic.
107.90	110.95	3.05	100%		109			MUDSTONE/SILTY/SANDY: Medium gray N-5. Hard, compact, Rooted, burrowed rarely Carby.
					110			SANDSTONE/SILTY:- Medium gray N-5. Fine grained, moderately sorted, qtz grains > 60% subrounded to rounded. Burrowed, shaly and Carbonaceous towards the bottom.
					111			SHALE:- Medium dark gray N-4. slightly hard and compact, slightly Carbon- aceous, consists of pockets of fine sand and coal specks. Middle portion is slightly silty. Bottom is highly Carbonaceous.
110.95	114	3.05	100%		112		3.12	COAL: Black N-1 Layered, brittle at the top Hard and slightly compact towards the bottom. Resinous and pyritic.
					113		1.55	UNDERCLAY:- Dark gray N-5 to Med. dark gray N-4. Rooted, Carbonaceous, (more towards the top) sliken-sided. Contains coal specks and plant fossils. more silty towards the bottom.
					114		0.38	MUDSTONE/SILTY & sandy:- Medium gray N-5 Hard & Compact. Rooted. Silty, and slightly sandy, sand is very fine grained (FL).



1235

DRILL-HOLE NO. **WAK-10**

CORE RECOVERY				WATER LOSS	DEPTH IN METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
114.00					115		1.08	<p>SANDSTONE/SILTY/MUDDY:- Medium dark gray N-A Hard Compact Silty and Muddy. Qtz grains - about 95%, very fine grained, equigranular, - well sorted, Black, blue, green FeMg mineral grains about 05%. At places silt and fine sand interlaminated. very slightly corby. Quite a few roots of plants also observed.</p> <p>CORE LOSS:- Probably at the bottom of the run.</p>
	117.05	1.08	35.40%		116		1.97	
					117			
117.05					118		3.05	<p>CORE LOSS:- Probably due to lose sand.</p>
	120.05	0.00	0%		119			
					120			
120.05					121		3.05	<p>CORE LOSS:- Probably due to lose sand.</p>
	123.05	0.00	0%		122			
					123			
					124			

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DRILL-HOLE NO. **UAK-10**

CORE RECOVERY				WATER LOSS	DEPTH IN METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
123.05			0.00		124		3.00	CORE LOSS:- Probably due to loose strata.
	126.05		0.0%		125			
126.05			0.70		126		2.35	CORE LOSS:- Probably at the top of the run, due to loose strata.
			22.95		127			SANDSTONE:- Light gray N-7. Hard and Compact. 90% clear Qtz sand, - medium grained, equigranular. most of the Qtz grains are rounded, and transparent. few are translucent. At the top of the run, few silty and sideritic very hard nodules present.
	129.10		1.00		128		0.70	
			36.36%		129		0.31	SANDSTONE:- same as above.
129.10			1.00		130		0.69	SHALE/SILTY/INTERLAMINATED WITH SAND AND SILT:- Dark gray N-3 & Medium gray N-5 Hard and compact cross laminated, very slightly carbony and pyritic towards the bottom. The sand in interlamination is fine, transparent equigranular, sand is about 95% and rest - 5% FeMg grains of black blue & green colors.
			1.00		131		1.75	CORE LOSS:- Probably at the bottom of - run due to loose strata?
129.85			0.20		132		0.25	CORE LOSS:- Probably at the top of run.
	132.30		44%				0.20	SANDSTONE:- Light olive gray. 54 gr. Loose friable. medium (multicourse) grained silty at the end.

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DRILL-HOLE NO **WAK-10**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
132.30	135.20	0.30	10.34%		133 134 135		2.60	CORELOSS:- Probably at the top of the run due to lose sand.  SANDSTONE:- Same as described in the previous run, except that the last - 0.16m of this run is hard and compact.
135.20	138.25	2.50	81.96%		136 137 138		0.55 0.17 0.14 0.40 1.79	CORELOSS:- Probably at the top of the run due to lose sand. SANDSTONE:- Medium dark gray N-4. Fine-grained, silty, slightly Carby, Hard and Compact. CARBY SHALE:- Medium dark gray N-4. Hard, Comp. Slaken sided, Plant fossils & leaf impressions slightly pyritic. COAL:- Grayish black-N-2. Pyritic, Resinous & shaly. UNDERCLAY:- Medium gray N-5. Top of the unit, is a 25m is dirty Coal, shaly, pyritic & Resinous, having dark brown streak, under clay is rooted, Slaken sided, Carby matter abundant, more silty and sandy towards bottoms and grades into silt stone.
138.25	141.30	2.32	76.06%		139 140		2.32	SANDSTONE:- Medium Light gray N-6. silty, Hard Compact, Fine grained (FL) very slightly Carby, at places inter laminated with silt st. slightly lose towards the bottom. A leaf fossil (perfectly preserved) was observed and sampled.
					141		0.73	CORELOSS:- Probably at the bottom of the run.
					142			

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DRILL-HOLE NO. **UAK-10**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
141.30								CORE LOSS: - Probably at the top of the run.
	143.35	1.39	69.80%		142 143		0.66 1.39	MUDSTONE / SILTY / SANDY: Medium gray N-5. Hard, Compact, Rooted, Sliken-sided, Carbonaceous, Pyritic, Burrowed, Burrows filled with coarse grained clear arg sand + pyritic grain.
143.35					144 145 146			MUDSTONE / SILTY / SANDY: - Same as above, however its lower portion is more Carbonaceous.
	146.40	3.05	100%				2.67	COAL: - Grayish black N-2. Resinous, slightly Pyritic and Laminated.
146.40					147		0.38	UNDERCLAY / SILTY: Dark gray N-3. Hard, Compact, pyritic, cross laminated, plant fossils and carby matter abundant. Grades into silt stone sandy.
	147.40	0.82	82%				0.18	CORE LOSS: - Probably at the bottom of the run.
147.40					148 149			MUDSTONE / SILTY / SANDY: - Medium Light gray N-6. Hard Compact, & pyritic. At few places - Sliken-sided. The upper portion (1/2 to 0.15m) is sandstone as mentioned above. At the bottom of the run concretions of s.s.t observed.
	150.45	1.75	57.37%		150		1.75	CORE LOSS: - Probably at the bottom of the run due to the <sup>hard</sup> concretions of s.s.t.
							1.30	

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DRILL-HOLE NO. **HAK-10**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
150.45					151			CORE LOSS:
	153.50	0.00	0%		152			
152.80					153		0.15	SANDSTONE:- Light gray N-7. very hard & compact. Coars (CL) clear - Qtz sand grains, angular to subangular. poorly sorted, Partially Coalified wood was observed at a place.
	156.55	0.15	4.91%		154			
					155			CORE LOSS:- Probably at the bottom of the run.
155.55					156		2.90	
					157			CORE LOSS:- Probably due to lose - strata.
	159.60	0.00	0%		158			

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DRILL-HOLE NO. **UAK-10**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
159.80					160			CORE LOSS:- Probably due to loose strata. ?
	162.65	0.00	0%		161			
					162		3.05	
162.65					163		0.40	CORE LOSS.
	165.70	2.65	86.88%		164			CLAYSTONE/SILTY/SANDY:- Medium light gray N-4. Hard, Compact, slickensided. Slightly carbonaceous at certain places
					165			
165.70					166		0.72	CLAYSTONE/SILTY/SANDY:- Same as above
							0.13	SHALE:- Medium gray N-5. Hard Compact, Slickensided, inter laminated with coal, at the bottom grades into Coal.
							0.25	
		1.70	55.73%		167		0.60	COAL:- Grayish black N-2, Layered, Pyritic, Contains plant fossils, Towards the bottom it is silty.
168.75					168			UNDERCLAY:- Dark gray N-3, Hard compact, slightly silty, Rooted, pyritic, Plant fossils present.
							1.35	CORE LOSS:- Probably at the bottom of the run.

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DRILL-HOLE NO. **WAK-10**

CORE RECOVERY				WATER LOSS	DEPTH & METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
168.75	171.80	3.05	100%		169			<p>UNDERCLAY:- Same as described above, ext last 0.08m of the unit, which is more shaley &amp; carbony.</p> <p>COAL:- Black, N.1. Pyritic, Layered, Brittle, &amp; very light in weight.</p> <p>UNDERCLAY:- same as above (168.75-169.70).</p>
					170		0.95 0.24	
					171			
171.80	174.85	3.05	100%		172		1.86	<p>UNDERCLAY:- Medium dark gray N-4. Rooted, very slightly carbonaceous, Hard Compact Slikensided, Coal specks (rare) slightly silty, lower portion is comparatively more silty and slightly sandy.</p>
					173			
					174			
174.85	177.85	1.50	50%		175			<p>CORE LOSS:- Probably at the top of the run.</p>
					176		1.50	
					177		1.50	<p>SANDSTONE AND SILTSTONE INTERBEDDED. Top few cms of the unit is more silty i.e. siltstone. Rest of the unit is interbedded and interlaminate sand stone &amp; siltstone, which is hard, compact and carbony. Last 0.50m of the unit is sandstone - Coarse grained (CL) hard and burrowed.</p>

—The end:—

by  
(S. Saad)

B242

Lithologic Log

for

Drill Hole

UAK-11









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DRILL-HOLE NO. **UAK-11**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
00.00		NON-CORING			1	✓✓✓✓	2.0	Alluvium silt/clay
					2	✓✓✓✓		
2.0	2.0				3	✓✓✓✓	2.0	Alluvium silt/clay
					4	✓✓✓✓		
4.0	4.0				5	✓✓✓✓	2.0	Alluvium silt/clay
					6	✓✓✓✓		
6.0	6.0				7	✓✓✓✓	2.0	Alluvium silt/clay
					8	✓✓✓✓		
8.0	8.0				9	✓✓✓✓	2.0	Alluvium silt/clay
					10	✓✓✓✓		
	10.0				1	✓✓✓✓		
					2	✓✓✓✓		




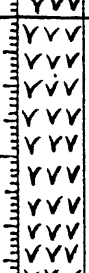

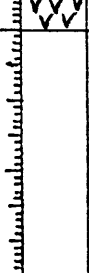

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DRILL-HOLE NO WAK-11

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
10.0		CORING			11		2.0	Alluvium silt/clay
12.0	12.0				12		2.0	Alluvium silt/clay
14.0	14.0				14		2.0	Alluvium silt/clay
16.0	16.0				16		2.0	Alluvium silt/clay
18.0	18.0				18		2.0	Alluvium sand/silt/clay
20.0	20.0				20			

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DRILL-HOLE NO. **UAK-11**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
20.0		CORING			21			Alluvium Sand/silt
	22.0				22			
22.0		NON -			23			Alluvium Sand/silt
	24.0				24			
24.0					25			
	26.0				26			
26.0		CORING			27			Alluvium Sand/silt
	28.0				28			
28.0					29			
	30.0				30			

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DRILL-HOLE NO. **UAK-11**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
30.0					31	Y Y	2.0	Alluvium Sand/Silt - Yellowish grey 5Y 7/2 v. fine gr. sand; micaceous some black minerals
32.0	32.0				32	Y Y		
					33	Y Y	2.0	Alluvium Sand/Silt
34.0	34.0				34	Y Y		
					35	Y Y	2.0	Sand/Silt/Lst. cuttings: Dark yellowish orange 10YR 6/6. soft & sandy lst.
36.0	36.0				36	Y Y		
					37	Y Y	2.0	Sand/Silt/Lst: same as above. few shell fragments & forams
38.0	38.0				38	Y Y		
					39	Y Y	2.0	Sand/Silt/Lst.: yellowish grey 5Y 7/2, very fine gr. sand, micaceous, some black minerals, silty & clayey. Lst. is Dark yellowish orange 10YR 6/6, soft cuttings. few shell fragments & forams
40.0	40.0				40	Y Y		

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DRILL-HOLE NO UAK-11

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
40.0		CORING			41		2.0	Sand/silt/slt. :- Yellowish orange, 10YR 6/6, forams, soft, clayey.
	42.0				42			
42.0		NON -			43		2.0	Sand/silt/slt. :- Same as above, ferruginous at places.
	44.0				44			
44.0		—			45		2.0	Sand/silt/slt. :- Same as above.
	46.0				46			
46.0		CORING			47		2.0	Sand/silt/slt. :- Same as above.
	48.0				48			
AKHRA ARA	48.0	NON -			49		2.0	Silty clays :- Greenish grey 5G 6/3, slightly calc. & slightly sandy.
	50.0				50			

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DRILL-HOLE NO. **UAK-11**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
50.0		CORING			51		2.0	Silty clays: Same as above
	52.0				52			
52.0		NON -			53		2.0	Silty clays: Same as above
	54.0				54			
54.0		—			55		2.0	Silty clays: Same as above
	56.0				56			
56.0		CORING			57		2.0	Silty clays: Same as above
	58.0				58			
58.0		NON -			59		2.0	Silty clays: Same as above
	60.0				60			

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DRILL-HOLE NO UAK-11

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
60.0		CORING			61			Silty clays:- Same as above.
	62.0				62			
62.0		NON —			63			Silty clays:- Olive grey 5Y4/1 to light olive grey 5Y6/1, sand percentage increases with few black minerals.
	64.0				64			
64.0		—			65			Silty clays:- Same as above.
	66.0				66			
66.0		CORING			67			Silty clays:- Same as above
	68.0				68			
68.0		NON —			69			Silty clays: Same as above.
	70.0				70			

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DRILL-HOLE NO. **UAK-11**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
70.0		CORING			71		2.0	Silty clays. Same as above.
	72.0							
72.0		NON -			72			Sandy clays:- olive grey 5Y 4/1, to light grey N7, sand is fine gr. sub-rounded qtz gr. few black minerals.
	74.0				73		2.0	
74.0		—			74			Sandy clays; Same as above.
	76.0				75		2.0	
76.0		CORING			76			Sandy clays: Same as above
	78.0				77		2.0	
78.0		NON -			78			Sandy clays: Same as above.
	80.0				79		2.0	
					80			



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DRILL-HOLE NO. **WAK-11**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		CORING			81		2.0	Sandy clays:- Olive grey 5Y 4/1 to light grey N7, med. gr. sub-spherical, >25 $\phi$ qtz grs. few black minerals.
82	82				82			
		NON -			83		2.0	Sandy clays:- Same as above.
84	84.0				84			
		CORING			85		2.0	Sandy clays: Same as above
86.0	86.0				86			
		CORING			87		2.0	Sandy clays: Same as above
88.0	88.0				88			
		NON -			89		2.0	Sandy clays: Same as above.
90.0	90.0				90			

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DRILL-HOLE NO. **UAK-11**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
90.0		CORING			91		2.0	Sandy clays: Light grey N <sub>2</sub> , med. gr. sub-rounded, >20% qtz. grs. some block minerals.
	92.0				92			
92.0		NON —			93		2.0	Sandy clays: Same as above
	94.0				94			
94.0		—			95		2.0	Sandy clays: Same as above
	46.0				96			
46.0		CORING			97		2.0	Sandy clays: Same as above
	98.0				98			
98.0		NON —			99		2.0	Sandy clays: Same as above.
	100.0				100			

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DRILL-HOLE NO. **UAK-II**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE RECOVERY	NON-CORING CORE %					
								Sandy clays: Same as above.
101.0			1.55	100%	101		0.40	<u>Coal</u> : - Brownish black SYR 2/1, blocky, pyritic, shale partings, wood debris, resin.
	102.55				102		1.15	<u>Claystone</u> : - Olive black SY 2/1, semi-hard, carb. wood pyritized, sandy + silty.
102.55					103		0.35	Thin layers of carb. matter + coaly flakes, slicken-side, pyritic, thin layers of fine gr. sand.
			1.15	38.3%	104		0.80	<u>Claystone</u> : - Same as above only the sand percentage increases + gradually changes into sst.
	105.55				105		1.85	<u>Interbedded claystone/sandstone</u> : - Olive black SY 2/1, + light grey N <sub>7</sub> , semi-hard, highly carb. Thin layers of coaly flakes, animal burrows, siderite nodules at places.
105.55					106			Core loss at base claystone/sst as above.
			2.50	81.9%	107		1.65	<u>Sand Stone</u> : - Light grey N <sub>7</sub> , loose to semi-hard, fine gr. sub-rounded, moderately sorted, interlayered with olive black claystone.
							0.40	Thin layers of carb. matter, siderite nodules.
					108		0.20	<u>Claystone</u> : - Olive black SY 2/1, semi-hard,
							0.25	Thin layers of carb. matter + coaly flakes, slicken side, wood pyritized + wood debris.
	108.60						0.55	
108.60					109		1.0	<u>Coal</u> : - Brownish black SYR 2/1, blocky, pyritic, + wood pyritized, shale partings.
							0.15	<u>Claystone</u> : - Light grey N <sub>7</sub> , slightly sandy + silty, very little carb. matter, pyritic.
			1.15	38.3%	110			Core loss at base claystone as above.
								<u>Claystone</u> : - Olive black SY 2/1, semi-hard, slightly sandy, slicken side, carb. animal burrows.
								<u>Sandstone</u> : - Light grey N <sub>7</sub> , loosely cemented, fine gr. well sorted, slightly clayey.

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DRILL-HOLE NO. **WAK-11**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					111		1.85	Core loss at base of Sand stone
111.60	111.60				112			Core loss from top of Sand stone.
		0.70	23%		113		2.35	Sandstone: Greenish gray SS 6/1, Soft and friable, fine grain, subrounded moderately sorted, at places clayey with carb material & coaly flakes. few Siderite nodules.
					114		0.70	
114.65	114.65				115		1.30	Core loss from top of Sand stone.
		1.70	5%		116			Sand stone: Greenish gray SS 6/1, Soft and friable, fine grain, subrounded moderately sorted, at places clayey with carb material & coal flakes, Siderite nodules
					117		1.70	
117.65	117.65				118			Core loss from top of Sand stone
		0.40	13%		119		2.65	
					120			

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DRILL-HOLE NO. UAK-11

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	120.70						0.40	Sandstone: Same as above
120.70					121			Core loss from top of Sandstone
		0.18	6%		122		2.87	Sandstone: Olive gray 5Y 4/1, fine to medium grain, subrounded poorly sorted, siderite nodules, coaly parting, and wood debris.
	123.75						0.18	
123.75					124			Core loss from top of Sandstone
		0.15	5%		125		2.90	
					126			Sandstone Same as above
	126.80						0.15	
126.80					127			Core loss: from top of Sandstone
		0.15	5%		128		2.90	
					129			Sandstone: Same as above
	129.85						0.15	
129.85					130			

1.256

DRILL-HOLE NO.

UAK-11

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					131		2.85	Core loss from top of Silt stone
		0.20	6%		132			Silt stone: Olive gray 5Y4/1, Semi hard, Carb material, slightly sandy and clayey, Siderite nodules
132.90	132.90				133		0.20	Core loss: from top of Sand stone.
		0.40	13%		134		2.65	
					135			Sand stone: Light gray N7 loose & soft, fine to medium grain, sub rounded poorly sorted, clayey, Siderite nodules
135.95	135.95				136		0.40	Core loss: from top of Sand stone.
		0.35	11%		137		2.70	
					138			Sand stone: light gray N7 to olive black 5Y2/1, Soft & loose, fine to medium grain, sub rounded, poorly sorted, clayey with carb material & thin coaly parting.
139.0	139.0				139		0.35	Core loss: from top of Sand stone:
					140			

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DRILL-HOLE NO.

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		0.45	15%		141		2.55	Core loss from top of Sand Stone Sandstone: Medium light gray N6 to olive black SY2/1, semi hard, medium grain, sub rounded, moderately sorted, clayey bands & carb layers, coaly parting, thin layers of silt.
	142.0				142		0.45	
142.0								Core loss from top of Sand Stone. Sandstone: Light gray N7 to light olive gray SY6/1, semi hard to soft and loose, fine to medium grain, sub angular to sub rounded, moderately sorted clayey & silty, carb matter.
		0.40	13%		143		2.60	
					144			
	145.0				145		0.40	Core loss: from top of Sand Stone. Sandstone: Soft & loose, fine to medium grain sub angular to sub rounded, moderately sorted, more than 80% quartz grain (clean sand) few black minerals, pyritic nodules.
145.0								
		0.20	6.9%		146		2.85	
					147			Core loss: from top of sand Stone.
	148.05				148		0.20	
148.05								
					149		2.90	
		0.15	5%		150			

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DRILL-HOLE NO

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								Core loss
	151.10				151		0.15	Sandstone: Same as above, only few thin bands of silt-stone.
151.10								
					152			Core loss:
		0.20	6.5%		153		2.85	Sandstone: Light gray NT, Soft & loose fine to medium grain, subangular to subrounded moderately sorted, more than 80% quartz grain few black minerals, thin bands of silt-stone siderite nodules. Slightly carbonaceous matter.
	154.15				154		0.20	
154.15								
					155			
		0.10	0.9%		156		NL	Core loss: Probably Sand Stone, same as above.
					157			
	157.20							
157.20					158		2.45	Core loss: Probably Sandstone with Coal. Colour of drilling mud changes to brown.
					159			
		0.60	2.0%		160		0.40	Sandstone: Light gray NT, loose, fine to medium grain, subangular to subrounded moderately sorted carbonaceous layers and coaly partings and gradually increases downward.



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DRILL-HOLE NO

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
160.25	160.25						0.20	COAL: Brownish black 5YR 2/1, brownish black streak. Core grind. pyritic, wood debris, thin layers of shale. blocky, resin at places small pockets of sand.
					161		2.25	Core loss: from top of Sandstone
		0.80	26%		162		0.20	Sandstone: Light brownish gray 5YR 6/1, soft and loose, fine to medium grain, subangular moderately sorted, carbonaceous layer, few black minerals.
					163		0.35	COAL: Brownish black 5YR 2/1, brownish black streak, pyritic, wood pyritized, resins easily broken into small pieces.
163.30	163.30						0.25	
					164		1.45	Carb shales/clayst: Brownish black 5YR 2/1, semi hard, highly carbonaceous & coal parting pyritic & wood debris.
		1.55	51%					Core loss: from top of Sandstone.
					165		0.40	Sandstone: Medium light gray N6, loose fine to medium grain, subrounded, moderately sorted, at places clayey, siderite nodules.
							0.50	
					166		0.65	Claystone: Medium light gray N6 to olive gray 5Y 4/1, medium hard, carbonaceous and coaly parting pyritic & wood pyritized, slightly silty.
166.30	166.30							
					167		2.10	Siltstone: Olive gray 5Y 4/1, semi hard, sandy and clayey, carbonaceous, wood debris & pyritic. The lower portion more sandy.
		0.95	31%		168			Core loss: from top of Sandstone.
					169		0.95	Sandstone: Medium light gray N6, loose fine to medium grain, subangular to subrounded, moderately sorted to well sorted, carbonaceous & coal parting at places clayey.
169.35	169.35				170			

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DRILL-HOLE NO UAK-11

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		0.95	31%		171		2.10	Core loss from top of Sand stone.
	172.40				172		0.95	Sand stone: Medium light gray N6, loose, fine to medium grain, subangular to subrounded, moderately sorted, carbonaceous & coal parting at places clayey.
172.40					173			Core loss: from top of Sand stone.
		0.60	20%		174		2.45	Sand stone: Olive gray 5Y 4/1, loose fine grain, subrounded, well sorted 90% Quartz grain (clean sand) few black minerals.
	175.45				175		0.60	
175.45					176			Core loss: from top of Sand stone.
		0.25	8%		177		2.80	Sand stone: Olive gray 5Y 4/1, loose fine grain, subrounded, well sorted, 90% Quartz grain (clean sand) few black minerals.
	178.50				178		0.25	
178.50					179			Core loss: Probably Sand stone.
		NIL	0.0%		180			

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DRILL-HOLE NO UAK-11

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		NIL			181			Core loss: Probably Sandstone.
181.55	181.55				182			Core loss: from top of Sandstone
		0.27	9%		183		2.78	Sandstone: Olive gray 5Y4/1 to light olive gray 5Y6/1, loose, fine to medium grain, subrounded, well sorted, 90% Quartz (clean sand) few black minerals.
					184			
184.55	184.55						0.27	Core loss:
		0.60	20%		185			Sandstone: light olive gray 5Y6/1 to light gray N7. loose, fine to grain, subrounded, well sorted 70% Quartz grain, few gray and black minerals.
					186			
					187		0.60	
187.60	187.60				188			Core loss: Probably Sandstone with Carbonaceous matter & coaly parting as indicated from drilling mud return.
		NIL	0%		189			
					190			

DRILL-HOLE NO UAK-11

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CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	190.65							Core loss probably Sandstone
191.65					191			Core loss from top sst as above.
		0.50	16%		192		2.55	
					193			Sandy silt stone:- Medium light grey N6, semi-hard, sandy, animal burrows, slightly clayey at places, carbonaceous.
	193.70						0.50	
193.70					194		0.60	Sandy silt stone:- Med. grey N5, & brownish grey STR 4/1, semi-hard, very fine thin sand layers, coaly flakes & partings, slightly clayey at places, carb.
		0.60	19%		195		2.45	
					196			Core loss at base silt stone as above.
	196.75							Sandy silt stone:- Med. grey N5 & brownish grey STR 4/1, same as above more clayey towards base, shicken side, gradually changes into clay stone.
196.75					197		0.90	
		0.90	30%		198			Core loss at base silt stone/clay stone.
					199		2.10	Silt stone:- Med. grey N5 & brownish grey STR 4/1, semi-hard, carb. animal burrows, at places sandy & slightly clayey, v. fine gr. sand layers at places.
	199.75							
199.75					200		1.70	

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DRILL-HOLE NO UAK#11

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		2.65	88%		201			Sand stone:- Light grey N <sub>7</sub> , loosely cemented, friable, fine gr., siderite nodules having animal burrows, thin carb. layers at places, few silt stone bands about 0.03-0.05 meters thick
					202		0.95	
	202.75						0.35	Core loss at bare sst. as above.
202.75					203		0.15	Sandy silt stone:- Med. light grey N5 + Brownish grey 5YR 4/1, semi-hard, fine gr. sand layers & patches, slightly clayey, carb. animal burrows.
							0.15	
							0.18	
							0.20	
							0.10	
		3.05	100%		204		0.35	Sand stone:- Light grey N <sub>6</sub> , loosely cemented at places hard, fine gr., thin layers of silt stone at places.
							0.10	
							0.15	
							0.10	
							0.15	
	205.80				205		1.35	Silt stone:- Same as above.
								Sand stone:- Same as above.
								Silt stone, Same as above
					206		0.70	Sand stone: Same as above.
								Silt stone:- Same as above.
								Sand stone:- Same as above.
								Silt stone:- Same as above
		0.70	22%		207		2.35	Sand stone:- Same as above
								Silt stone:- Same as above
					208			Sand stone:- Light grey N <sub>6</sub> , loosely cemented, v. thin carb. layers & thin silt stone layers at places, fine gr. sub-angular to sub-rounded.
								Sand stone:- Light grey N <sub>6</sub> , semi-hard & at places soft, v. thin carb. layers, few silt stone bands of about 0.05 m. sand is fine gr.
208.85					209		0.75	Core loss at bare sst as above.
		0.75	24%		210			Silt stone:- Brownish grey 5YR 4/1, semi-hard, carb. wood debris, v. thin sand layers at places, resins, coaly flakes, slightly clayey, thinly bedded, upper part is more sandy, sand is fine gr. sub-angular to sub-rounded, v. thin carb. layers.

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DRILL-HOLE NO UAK#11

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					211			Core loss at base probably sst. as below.
	211.90				212		0.10	Sand stone:- light grey N7 + light olive grey 5Y6/1, hard, fine gr.
211.90					213			Core loss at base probably sst.
		0.10	32		214		2.95	
	214.95				215			
214.95					216			Total core loss probably sst.
		Nil			217		3.05	
	218.0				218			
218.0					219			Total core loss probably sst.
		Nil			220		3.0	

DRILL-HOLE NO. **UAK-11**

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CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
221.0	221.0				221			
					222			
		Nil			223		3.0	Total core loss probably sst.
224.0	224.0				224		0.70	Sand Stone: Med. dark grey N <sub>4</sub> , loosely cemented, fine to med. gr. sub-angular to sub rounded, > 90% qtz gr. slightly carb., thin bands of carb. shale.
		0.70	22%		225			
					226			Core loss at base probably sst. as above.
227.05	227.05				227			Total core loss probably sst.
					228			
		Nil			229			
					230			

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DRILL-HOLE NO L/AK#11

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
230.10	232.10				231		3.05	Total core loss probably sst.
		Nil			232			
					233			
233.15	233.15				234		3.05	Total core loss probably sst.
		Nil			235			
					236			
236.20	236.20				237		3.0	Total core loss probably sst.
		Nil			238			
					239			
239.20	239.20				240			
					1			
					2			



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DRILL-HOLE NO LIAK#11

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		Nil			241		3.05	<i>Total core loss probably sst.</i>
	242.25				242			
242.25		Nil			243		3.05	<i>Total core loss probably sst.</i>
					244			
	245.30				245			
245.30		Nil			246		3.0	<i>Total core loss probably sst.</i>
					247			
	248.30				248			
248.30		Nil			249		3.0	<i>Total core loss probably sst.</i>
					250			
					1			
					2			

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DRILL-HOLE NO UAK#11

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	251.30				251			
					252			TD = 251.30.
					253			
					254			
					255			
					256			
					257			
					258			
					259			
					260			
					1			
					2			

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Lithologic Log

for

Drill Hole

UAK-12

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DRILL-HOLE NO. UAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CLAY, Sandy, light olive gray. SY 6/1, Contains very fine grained sand, Micaceous, About 40% sand. Slightly calcareous
02	02							CLAY, Sandy, same as above,
04	04							CLAY, Sandy, light olive gray SY 6/1, Contains very fine to fine grained sand. About 40% sand. Micaceous. Minute flakes of muscovite and black and brown biotite, Slightly calcareous.
06	06							SAND. Light olive gray SY 6/1, Fine grained, well sorted. Subangular to subrounded dominant quartz grains 5 to 10% green and black grains. Micaceous. Flakes of muscovite and a few flakes of black and brown biotite. Friable. Slightly calcareous.
08	08							SAND, Light olive gray, SY 6/1, Clayey, Very fine grained to fine grained. Dominantly quartz grains. About 5% dark mineral grains. Slightly calcareous, Micaceous
	10							

[illegible]

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DRILL-HOLE NO WAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
20								SAND, light olive gray 5Y6/1, Fine to medium subrounded to subangular grains. Dominantly quartz grains. About 5% coloured grains slightly calcareous. Micaceous. Flakes of muscovite and brown and green biotite
	22							22
22								SAND, Same as above,
	24							24
24								SAND, Same as above,
	26							26
26								SAND, light olive gray 5Y6/1, Fine to medium subrounded to subangular grains. Few coarse rounded grains. Dominantly quartz grains. About 5% coloured grains slightly calcareous. Micaceous. Flakes of muscovite and brown, green biotite
	28							28
28								SAND, Same as above
	30							30

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DRILL-HOLE NO WAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
30								SAND, light olive gray S Y 6/1, fine to medium subrounded to subangular grains. Dominantly quartz grains. 5 to 10% dark mineral grains slightly calcareous. Micaceous. Flakes of muscovite and brown and green biotite.
32	32							32
	34							34
34								SAND, Same as above,
	36							36
36								SAND, Same as above,
	38							38
38								SAND, Same as above,
	40							40

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DRILL-HOLE NO UAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
40	42							SAND, light olive gray, 5Y 6/1, fine to medium subrounded to subangular grains. Dominantly quartz grains 5 to 10% dark mineral grains. Slightly calcareous. Micaceous. Flakes of muscovite and brown and green biotite 42
42	44							CLAY, Sandy, light olive gray, 5Y 6/1, slightly calcareous. Contains fine sand 44
44	46	NON CORING						CLAY, Sandy, light olive gray, 5Y 6/1, Very slightly calcareous. Contains fine sand Micaceous. 46
46	48							CLAY, Sandy, light olive gray, 5Y 6/1, to Medium bluish gray 5B 5/1, slightly calcareous. Contains fine to coarse sand 48
48	50							GRAVELS, Pebbly, sandy, unconsolidated, contain Moderate yellowish brown 10YR 5/4 and light olive gray 5Y 6/1, limestone pebbles Ascleria and other forams. Abundant coarse rounded quartz grains, limestone pebbles are subrounded to rounded, < 1 cm 50



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DRILL-HOLE NO. WAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
50								GRAVELS, sandy, unconsolidated Same as above,
52	52							52 GRAVELS. Contains limestone pebbles < 1cm of Moderate yellowish brown 10YR 5/4 to light olive gray, 5Y 6/1. Asst. lime and other forams. Fine to coarse quartz grains probably from upper units. About 5% green and black grains. Sandy.
54	54							54 GRAVELS Same as above,
56	56							56 GRAVELS Same as above.
58	58							58 GRAVELS, SANDY, UNCONSOLIDATED. Light olive gray 5Y 6/1. Moderate yellowish brown 10YR 5/4 colour limestone pebbles smaller forams. Few fine to coarse quartz grains and about 5% dark mineral grains, mostly green and black. Sandy. pebbles are subrounded to rounded.
	60							60

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DRILL-HOLE NO WAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
60								GRAVELS, Same as above.
	62							62
62								SAND. Light olive gray, 5Y6/1, Fine to coarse grained subangular to subrounded poorly sorted. Dominantly quartz grains dark mineral grains about 5%. Limestone cuttings probably from upper unit. Unidentifiable smaller forams
	64							64
64		NON CORING						SAND Clayey, light olive gray, 5Y6/1, Fine to medium grained. Rare coarse grains subangular to subrounded. 5% dark mineral grains.
	66							66
66								CLAY. light olive gray, 5Y6/1;
	68							68
68								CLAY: Sandy, light olive gray, 5Y6/1, Few limestone cuttings few pyrite grains. 5-10% dark mineral grains
	70							70

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DRILL-HOLE NO **UAK-12**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
70								CLAYS Same as above.
	72							
72								CLAYS Olive gray 5Y 4/1, few limestone fragments and coarse quartz grains. Sandy.
	74							
74								CLAYS Olive gray 5Y 4/1, Sandy, limestone fragments comparatively less. Few fine to medium quartz grains.
	76							
76								SANDSTONE. Clayey, light gray N7 to greenish gray 5GY 6/1, fine grained. Few glauconite grains. About 15-20% colored grains. Subangular to subrounded. Quartz grains more than 60%. Well sorted
	78							
78								SANDSTONE. Clayey, glauconitic, same as above.
	80							

PERCENT/  
PERCENT

ONHARI

NON CORING

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DRILL-HOLE NO. **WAK-12**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	82							Sandstone clayey, light gray N 7. greenish gray 5G 6/11, slightly carbonaceous
82								
	84							Sandstone Same as above
84								
	86							Claystone Brownish grey, 5YR 4/1, silty, slightly carby.
86								
	88							Claystone Same as above. colour olive black 5Y 2/1 slightly pyritic.
88								
	90							Claystone, Olive black 5Y 2/1, few pyrite grains, slightly sandy and carby.

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DRILL-HOLE NO **UAK-12**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	92							claystone, Same as above.
92	94							Sandstone Brownish grey 5YR 4/1, clayey, glauco- nitic, fine to coarse grained, poorly sorted Subangular to subrounded, 1-2% dark grain.
94	96	NON CORING						Sandstone, Same as above.
96	98							Sandstone Brownish grey 5YR 4/1, clayey, fine to coarse grained, coarse grain increasing. 76% quartz grain.
98	100							Sandstone, Brownish grey 5YR 4/1, clayey, few pyrite grains and carbony fragments. 76% qtz grains, fine to coarse grain. Percentage of quartz grain increasing.

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DRILL-HOLE NO. **YAK-12**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
100								Sandstone olive gray 5Y 4/1, clayey, fine to medium grained, coarse grain rare, dominantly medium grained. Sub rounded to sub angular, 79% quartz grains, few opaque calcite grains.
	102							102
102								Sandstone very light gray N8, friable, clean sand fine to coarse grained, dominantly medium grained, sub rounded to sub angular, large grains sub rounded to rounded 79% quartz, transparent quartz grain, poorly sorted, few pyrite grains.
	104							104
104								Sandstone, olive gray 5Y 4/1, clayey, fine to medium grained. Few coarse grains, sub rounded to sub angular, large grains sub rounded to rounded. Mostly quartz grains, few rock fragments probably from upper units.
	106							106
106								Limestone white limestone fragments along with sandstone olive grey 5Y 4/1, fine to coarse grained. Sub angular to sub rounded, large grains sub rounded to rounded, poorly sorted sand probably from upper units.
	108							108
108								Limestone white limestone fragments with sand grains, probably from upper units. Same as above
	110							110

NON CORING

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DRILL-HOLE NO **UAK-12**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
110								Limestone Same as above.
	112							112
112								CLAYSTONE, olive gray SY 4/1.
	114							114
114								Limestone/Claystone Same as above, white limestone fragment and clean quartz grains and claystone fragments. Claystone light bluish gray SB 7/1. Shell fragments in claystone.
	116							116
116								Sandstone clayey, olive gray SY 4/1, fine to coarse grained, poorly sorted, sub angular to sub rounded, larger grains sub rounded- to rounded. Mostly quartz grains. Few rock fragments, probably from upper units.
	118							118
118								Sandstone, very light gray, N8, to light gray N7, fine to coarse grained. Sub angular to sub rounded large grains sub rounded, poorly sorted, mostly transparent quartz grains.
	120							120





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DRILL-HOLE NO. WAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								Clay Stone Same as above
132	132							132
								Limestone. White limestone fragments contains forams quartz grains, probably from upper units. Asselina, Nannulites
134	134							134
								Sandstone, olive gray s <sup>1</sup> 4/1 Clayey with limestone fragments from the upper units, fine to coarse grained. Poorly sorted, sub angular to sub rounded. Larger grains sub rounded.
136	136							136
								Sandstone Same as above.
138	138							138
								Sandstone Same as above.
140	140							140

NON CORING

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DRILL-HOLE NO WAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
140								Sandstone Olive grey 5Y 4/1 fine to coarse grained Subangular to subrounded, large grains Sub rounded to rounded, poorly sorted About 95% quartz grain, clayey.
	142							142
142								Sandstone Olive grey 5Y 4/1, to brownish 5YR 4/1 clayey, fine to coarse grained, subangular to subrounded, larger grains subrounded to rounded, poorly sorted, mostly quartz grains.
	144							144
144								Sandstone Clayey, same as above.
	146							146
146								Sandstone Clayey, same as above.
	148							148
148								Sandstone Clayey, same as above.
	150							150

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DRILL-HOLE NO. UAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	152							Sandstone, clayey, may be claystone sandy. olive grey 5Y 4/1. Fine to coarse grained poorly sorted, sub angular to sub rounded grains, larger grains sub rounded to rounded, almost all quartz grains.
152								Sandstone. clayey, may be claystone sandy Same as above.
154	154							Sandstone Same as above.
156	156							Sandstone Same as above
158	158							Sandstone. Same as above.
160	160							

NON CORING

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DRILL-HOLE NO. UAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
160.00								SHALE AND SANDSTONE INTERLAMINATED Olive gray SY 4/1, to medium dark gray N4, ~ Sand very fine to fine grained; fine grained to few medium grained near top, grain size decreases to very fine near bottom, More ~ Sandy near top, smaller grains sub angular larger grains sub rounded to sub angular, 75% quartz grains, abundant dark grains, prob- ably green glauconite grains, few small patches of very fine grained pyrite. Rare shell fragments.
160.05	163.05	3.05	100%		161		3.05	
163.05	164.05	1.00	100%		162		1.00	CLAYSTONE olive black SY 2/1, to brownish black SYR 2/1, upper 20 cms contains glauconitic sand streaks, disseminated pyrite grains, few burrows filled with fine sand, few carbonyl rippled, few sideritic nodules in the middle, lower 20 cms contains plant impressions, carbonaceous fragments, marbasitic/pyrite patches, few basitic globules.
164.05	166.05	2.60	90%		163		2.60	CLAYSTONE, brownish black, SYR 2/1, massive silty, disseminated carby materials, lower 20 cms highly carbonaceous.
	166.95				164		0.65	CLAYSTONE, olive black SY 2/1, contains abundant siderite nodules, massive, grade into clayey, glau- conitic sandstone, burrowed, slightly slicken sided, few patches of very fine grained pyrite
					165		0.75	SANDSTONE, clayey, glauconitic, greenish black SY 4/1, contains sideritic nodules, sub angular to sub rounded, medium to coarse grained, dominantly medium grains.
					166		0.30	CORE LOSS, Sand in wash.
					167		0.55	CORE LOSS, Sand in wash.
	169.40	1.90	77%		168		1.90	CLAYSTONE, olive black SY 2/1, with abundant streaks of glauconitic sandstone, light gray N/7 very fine to fine grained, intercalated carby laminae, very fine grained disseminated pyrite, carbonaceous fragments, burrowed filled with sand 5 cms. siderite nodules at line base, continuous in the next run.
169.40		2.40	80%		169		2.40	CLAYSTONE, olive black SY 2/1, massive with micro streaks of very fine grained glauco- nitic sandstone, slightly carby, few patches of very fine grained pyrite. sideritic nodules at top
					170		0.60	CORE LOSS, probably sand in wash. P.T.O.

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DRILL-HOLE NO. UAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS
					171		1.05	SANDSTONE, Greenish black SY 2/1 to olive grey SY 4/1, glauconitic, caliche, fine to coarse grained, poorly sorted, concentration of shell fragments (bryozoa) at one place near top, few sideritic nodules (hard, grain size decreasing downward, grades into claystone, very few forams at places.
	172.40				172		1.10	CLAYSTONE, olive black SY 2/1 to greenish black, SY 4/1, contains glauconitic sandstone streaks, sand decreasing downward, abundant sideritic nodules, few scattered shell fragments in sand, rare forams, few corby fragments, very fine grained pyrite.
172.40					173		1.95	CLAYSTONE, olive grey SY 4/1 to olive black SY 2/1 upper part sandy, contains glauconite and shell fragments, claystone contains abundant sideritic nodules, few plant impressions, and corby fragments, pyritized plant materials, few small shell fragments.
		2.30	78%		174		0.35	CLAYSTONE, SY 2/1, with pockets/burrows? of fine to coarse grained sand. Few corby streaks, pyritized plant materials, few corby fragments, one sideritic nodule near the base.
	175.45				175		0.75	CORE LOSS
							0.04	CORE LOSS (0.04)
175.45	176.05	0.56	93%		176		0.56	CLAYSTONE, olive black, SY 2/1, with abundant fine sand streaks, light grey, N7, contains at places scattered corby materials, rarely replaced by very fine grained pyrite.
176.05					177		1.60	CLAYSTONE, olive black SY 2/1, with abundant fine sand streaks, light grey N7. Contains few sideritic nodules, burrowed, filled with fine sand, at places few corby streaks, and plant impressions.
		2.60	87%		178		1.00	SANDSTONE/claystone, interlaminated, light grey N7 to olive black SY 4/1, respectively, burrows filled with sand, few corby fragments, at places few patches of fine grained pyrite. Sandstone fine grained, sub angular to sub rounded.
	179.05				179		0.40	CORE LOSS, probably sand in wash.
179.05							1.35	CORE LOSS, probably sand.
					180			P.T.O.

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DRILL-HOLE NO. WAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS
							0.65	SANDSTONE/CLAYSTONE, interlaminated, light gray N7 to olive black SY 2/1, burrowed, filled with sand. Sideritic nodules near bottom, grades into claystone.
		1.70	54%		181		0.85	CLAYSTONE, massive olive black SY 2/1, streaks of carby materials and sideritic nodules at places, burrowed, filled by sandstone. Few patches of very fine grained pyrite. Slickenside at few places.
182.10	182.10				182		0.20	CLAYSTONE, olive black SY 2/1, abundant fine grained sand streaks, light gray N7, Burrowed few carby streaks, sandstone well sorted.
							0.90	
					183		0.60	CORE LOSS
		2.15	70%				0.45	CLAYSTONE, olive black SY 2/1, with few fine grained sand streaks, highly burrowed, filled by clear quartz grains, more than 90% quartz grains. few carby streaks at places, few patches of fine grained pyrite.
					184		0.50	SANDSTONE, clayey, brownish black, SY R 2/1, to olive black SY 2/1, fine to medium grained, few coarse grains, poorly sorted, contains few coaly streaks, pyritized plant materials, carby fragments, plant impression, rooted, abundant sideritic nodules (sandy).
	185.15				185		0.10	
185.15							1.22	CLAYSTONE, olive black SY 2/1, abundant fine grained sandstone streaks, at places glauconitic, few burrows filled by glauconitic sand. few carby streaks, pyritized plant materials, rooted.
					186			CARBONACEOUS CLAYSTONE, Brownish black SY R 2/1, abundant carby materials, coaly streaks, pyritized plant materials. highly pyritized at one place.
		1.22	40%		187		1.83	CLAYSTONE, olive black, SY 2/1, as above claystone.
								CLAYSTONE, olive black, SY 2/1, pyritized plant materials, few plant impression.
								CORE LOSS.
188.20	188.20				188			SANDSTONE, clayey, medium dark gray, N4 very fine to fine grained, sub angular to sub rounded, well sorted, burrowed filled with sand. few hard, heavy sideritic nodules, contains carbonaceous fragments, more clayey in the middle, few carby streaks, Sideritic nodules contains carby fragments.
		3.00	100%		189		3.00	
					190			

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DRILL-HOLE NO UAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	191.20				191			SANDSTONE, clayey, light grey, N7 to olive black SY 2/1, fine to coarse grained, few coarse grains. poorly sorted, burrowed, filled by sand, few scattered coaly and carby materials,
191.20					192			SANDSTONE, clayey, medium grey, N5 to light grey, N7, interlaminated claystone, olive black SY 2/1, rippled, carby and coaly streaks, sandstone very fine to fine grained, well sorted, 80% quartz grains, few dark grains, contains carby and coaly streaks, disseminated pyrite grains.
		2.40	80%		193			CORE LOSS,
	194.20				194		0.60	CLAYSTONE, olive black SY 2/1, fine sandstone streaks, burrowed, filled by fine sand, at places carby streaks, pyritized plant impressions, few siderite nodules.
194.20					195		1.05	CLAYSTONE, silty, medium grey, N5, to olive black, SY 2/1, scattered white coarse rounded grains, probably sideritic, coaly+carby streaks, pyritized plant materials, burrowed filled with sand, siderite nodules.
		3.05	100%		196		0.80	SILTSTONE, brownish grey, SYR 4/1, olive black SY 2/1, abundant coaly, carby streaks, rooted, pyritized plant materials, carby fragments, grades into sandstone towards base
	197.25				197		0.95	SANDSTONE, medium light grey, N6 to brownish grey, SYR 4/1, with shaly streaks, fine grained, well sorted, rippled, few carby streaks, rare sideritic nodules, near base, burrowed.
197.25					198		1.60	SANDSTONE, medium grey N5, to medium light grey, fine grained, sub angular to sub rounded, well sorted, few carby streaks at places, abundant hard, heavy, probably sideritic nodules, few green grains, friable, slightly clayey.
		1.60	52%		199		1.45	CORE LOSS,
					200			P.F.O.

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DRILL-HOLE NO. **WAK-12**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
200.30	200.30							CORE LOSS
200.30								CORE LOSS
200.30		0.95	31%		201		2.10	CLAYSTONE, Brownish black, SY 2/1, sticky, abundant small sideritic nodules. Burrows filled with sandstone.
					202			SANDSTONE, Medium gray, NS, fine grained, well sorted, sub angular to sub rounded, contains few green grains, scattered coaly flakes, sideritic nodules.
					203		0.85	CORE LOSS.
203.35	203.35							CLAYSTONE, Brownish black SY 2/1, burrowed filled with sand, upper 5 cms, contains glauconitic sandstone, and shell fragments, grades into siltstone towards base.
203.35		0.45	15%		204		2.60	SILTSTONE, Olive black SY 2/1, pyritized plant materials, few coaly flakes, resin globules, very fine disseminated pyrite grains, few siderite nodules.
					205			CORE LOSS.
					206		0.35	SANDSTONE, Olive gray SY 4/1, to Olive black SY 2/1, clayey, fine grained, sub angular to sub rounded, few carbon and pyritized plant fragments, coaly streaks, burrowed.
206.40	206.40				207		2.36	SANDSTONE, Olive gray SY 4/1, to Olive black, SY 2/1, clayey, very fine to fine grained, contains carbon and coaly streaks, burrowed, abundant sideritic nodules in the lower half. lower contact with claystone sharp.
		0.64	21%		208			P.T.O.
					209		0.64	
209.40	209.40							
209.40		3.05	100%		210		3.05	



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DRILL-HOLE NO. UAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					211			SANDSTONE
					212			CLAYSTONE, Brownish black, ST 2/1, abundant pyritized plant fragments, coaly and Carby streaks in the lower half, coaly Carby material increasing downward.
					213		0.65	CARBONACEOUS SHALE, grayish black, N 7 to Brownish black ST 2/1, abundant coaly and Carby streaks, pyritized plant materials, coaly and Carby bands.
212.45	212.65						0.20	Coal.
					214		0.30	CARBONACEOUS SHALE, grayish black N 7, coaly Carby bands and streaks, resin globules, pyritized plant materials.
		3.05	100%		215		1.30	CLAYSTONE, Medium dark gray, N 4, disseminated pyrite, Carby materials.
					216			SILTSTONE, Medium dark gray N 4, Sandstone, coaly and Carby streaks, burrowed, few resin globules.
215.50	215.50				217		2.20	CLAYSTONE, olive black, ST 2/1, massive, pyritized plant fragments, few Carby fragments, burrowed filled with sideritic materials.
		2.20	72%		218			CLAYSTONE, Massive, olive black, ST 2/1, pyritized plant fragments, few Carby streaks. Resins, and Sandstone streaks, burrowed filled with sand
					219			CORE LOSS
					220			CORE LOSS
218.55	218.55						0.85	P.T.O.
		0.13	04%				2.80	

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DRILL-HOLE NO. WAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	221.55				221			CLAYSTONE, olive black, SY 2/1, highly burrowed filled with medium to coarse grain, subrounded quartz sand, pyritized plant materials, Carby streaks, sideritic nodules, slickensided
221.55	221.55						0.18	
					222			
		Nil	Nil		223		3.05	CORE LOSS, Probably fine to medium grained quartz sandstone, clean friable well sorted, (observed in cullings).
					224			CORE LOSS, as above.
224.60	224.60						0.35	SILTSTONE AND SANDSTONE INTERBEDDED brownish gray SY 4/1 to light gray N7 with carbonaceous streaks, ripples, sandstone, fine grained, sub angular to sub rounded, well sorted, few coaly streaks, slightly burrowed, disseminated pyrite grains, few green grains, sideritic nodules at places contains Carby fragments.
		270	89%		226		2.70	SILTSTONE AND SANDSTONE INTERLAMINATED olive gray SY 4/1, to medium light gray N/6 Sandstone rippled, Carby and coaly streaks, resin globules in streaks, Sandstone fine grained sub angular, well sorted. Contains few sideritic nodules, less sandy towards base.
	227.65				227			
227.65	227.65						0.70	SILTSTONE, dark yellowish brown, 10YR 4/2 to dusky yellowish brown, 10YR 2/2, abundant Carby and coaly streaks, few sandstone streaks highly burrowed, filled with medium to coarse sub rounded, poorly sorted, contains coaly fragments.
					228		0.15	
							0.22	
		305	100%		229		1.08	COAL, upper 12 cms brownish black, SY 2/1, upper part burrowed, filled with medium to coarse, sub rounded quartz sand, breaks along bedded plains, cleat not marked few resin globules, lower 10 cms grayish black N/2, to black N1 lighter, contains few resin globules, brittle fractured lenticular, pyritized plant fragments at places.
					230			SILTSTONE, light bluish gray, SB 7/1, Massive, rare fine grained sandstone streaks, sparsely rooted, scattered coaly and Carby fragments. clayey, upper 10 cms Carby.
								CLAYSTONE - P.T.O.

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DRILL-HOLE NO. 4AK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	230.70				231		0.60	CLAYSTONE light bluish gray SB 7/1, silty near top few small burrows, filled with sand. grades into siltstone at top, and carby claystone at bottom
	230.70				231		0.30	CARBY CLAYSTONE, abundant carbony and carbony streaks and bands
	230.70				232		1.25	CLAYSTONE medium gray NS, silty towards top siltkenesided, rooted, scattered carbony and coaly fragments. Colified root and plant fragments. sparsely burrowed, filled with sandstone, lower 30 cms abundantly rooted, comparatively thick and coalified. Sideritic materials along roots.
	230.70				232		0.20	grades into carbony claystone near bottom.
	230.70				233		0.20	DIRTY COAL. Olive black, SY 4/1, to brownish black SYR 2/1, comparatively heavy, clayey bands, pyritized plant materials, plant impressions, few resin globules, few burrows filled with sand, sparsely siltkenesided.
	230.70				234		1.75	SILTSTONE, Dusky yellowish brown, SYR 2/1, carbony and coaly fragments sparsely distributed, burrowed filled with medium grained sub rounded sand.
	230.70				235		3.05	CORE LOSS
	230.70				236		3.05	CORE LOSS
	230.70				237		0.35	SILTSTONE, INTERLAMINATED SANDSTONE Brownish gray SY 4/1, to light gray N?, few thin carbony streaks, few resin globules in streaks.
	230.70				238		2.65	Sandstone fine grained, subangular to subrounded, also contains sandstone streaks, few sideritic nodules
	230.70				239		0.35	CORE LOSS
	230.70				240			CORE LOSS
	230.70				240			P.T.O.

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DRILL-HOLE NO. **NAK-12**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS
								CORE LOSS
					241		3.05	SANDSTONE, light olive gray, ST 6/1, inter-laminated siltstone, brownish gray ST 4/1. Sandstone fine to medium grained, highly burrowed, filled by medium to coarse grained soft friable sandstone, coaly bands in the upper part, coaly bands also burrowed.
					242			
					243			SILTSTONE, medium dark gray, NS to olive black, ST 2/1, fine grained sandstone streaks coaly and carby streaks, and fragments few resin globules, sparsely burrowed, filled with fine to medium grained sand. Siderite nodules in the upper part, lower part highly carby.
					244		0.40	
					245		0.75	COAL, Brownish black ST 2/1, to grayish black, NS, comparatively light, conchoidal fracture, few burrows filled with fine sand, pyritized plant fragments, scattered resin globules.
					245		0.20	
					245		0.16	CARBONACEOUS SHALE, brownish black ST 2/1 to olive gray ST 3/2, carby fragments abundant, pyritized plant fragments, coaly streaks, few resin globules.
					246		0.44	
					247		1.35	SILTSTONE, interbedded carby laminae, sparsely burrowed, abundant carby and coaly streaks, few resin globules.
					248		1.70	OLIVE black ST 2/1, pyritized plant materials, plant impressions.
					249		1.30	SILTSTONE, olive black ST 2/1, with carby laminae, carby and coaly streaks, also sandstone streaks, sand increase towards bottom, few siderite nodules, lower 10 cm highly burrowed, filled with sand.
					250			CORE LOSS
								CORE LOSS
								P.T.O.

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DRILL-HOLE NO. **WAK-12**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS
		1.75	57%		251		1.00	SILTSTONE, OLIVE black SY 2/1, abundant sandstone streaks, coaly and clay streaks, few pyritized plant fragments, plant impressions, few burrows filled with quartz sand.
	252.00						0.30	SILTSTONE, highly carbonaceous and sideritic heavy, contains barry bands, sandy.
	252.00				252		0.45	CLAYSTONE, Medium gray NS rooted slickensided, burrowed, filled with sand and sideritic materials, contains pyritized plant materials.
	252.00						0.96	CLAYSTONE, medium gray NS to olive gray SY 4/1, slickensided rooted, burrowed filled with sand gradually become more clay towards base, coaly and clay streaks, pyritized plant materials, resin globules, contains few sideritic nodules.
	252.00	3.05	100%		253		0.22	
	252.00				254		1.83	COAL, Brownish black SY 2/1, to grayish black N2, fracture conchoidal, brittle, few resin globules, few pyritized plant fragments. light.
	255.05				255			CLAYSTONE, Medium gray NS, scattered rounded dirty white medium size grains (?) clay materials at places. Scattered small sideritic nodules, burrow filled with sand. contains angular clay fragments.
	255.05	1.85	61%		256		1.85	
	258.10				257		1.20	CLAYSTONE, Medium gray NS, light bluish gray S137/1, Olive black SY 2/1, upper half light bluish gray, contain fragment of clay relatively darker color, few small sideritic nodules, sandy, clay material increasing downward, lower half contain coaly and coaly fragments and streaks, pyritized plant materials, sil increasing downwards, grades into siltstone with sandstone streaks near bottom.
	258.10				258			
	258.10	NIL	NIL		259		3.05	
	258.10				260			CORE LOSS
								CORE LOSS P.T.O

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DRILL-HOLE NO WAK-12

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS
	261.5				261			SANDSTONE, Light gray N7, medium to coarse grain, dominantly sub rounded clean quartz grains, 79% quartz grain, soft friable, Top 3m contains Carby and coaly bands.
261.5							0.30	CORE LOSS
					262		2.75	COAL, Black N1, to grayish black N2, light brittle, few resin globules, conchoidal fracture
		0.75	25%		263			SILTSTONE, Olive black SY21, sandstone streaks, fine grained, burrowed, filled with fine sand contains few coaly and Carby fragments, clayey, sideritic nodules at bottom.
	264.15				264		0.40	CORE LOSS,
264.15					265		2.35	SANDSTONE, Light gray N7, upper part loose, friable, medium to coarse grained sub angular to sub rounded, poorly sorted more than 90% quartz grains, scattered clay fragments, burrowed, sparsely distributed coaly and Carby fragments, lower part fine grained to silty contains coaly and Carby streaks and fragments, massive compact, brownish gray SY241,
	267.20				267		0.70	CORE LOSS
267.20					268		2.75	SANDSTONE, light gray N7, medium to coarse grained, upper part medium grained, more than 90% quartz grains contains scattered clay fragments, in lower part, lower part poorly sorted, sideritic nodules and Carby, coaly fragments at places.
		0.30	10%		269			
					270		0.30	

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DRILL-HOLE NO **NAK-12**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
270.30	270.30							SANDSTONE
270.30	273.30	0.10	03%		271		2.95	CORE LOSS
					272			SANDSTONE, Grayish orange 10YR 7/4 fine to coarse grained, dominantly coarse grained, fine grains angular to subangular coarse grains subrounded, about 90% quartz grains, scattered clayey fragments and rare green grains.
273.30	273.30				273		0.10 0.05	SANDSTONE, grayish orange 10YR 7/4, fine to coarse grained, fine grains subangular, coarse grains subrounded, dominantly quartz grains, contains scattered clay fragments, compact.
273.30	276.30	1.15	38%		274		1.85	CORE LOSS
					275			CLAYSTONE, Olive gray, 5Y 2/1, massive contains pyritized plant fragments and plant impressions, burrowed, filled by fine grained sand, sandstone streaks and sideritic nodules in the lower part. Scattered catby fragments.
276.30	276.30				276		1.10	CLAYSTONE, Olive black 5Y 2/1, Massive, fine grained sandstone streaks, scattered pyritized plant materials and plant impressions, few sideritic nodules, burrows filled with fine sand. Lower 30 cms highly burrowed, filled with fine to medium to sand, abundant coaly and clayey bands and fragments, few resin globules few small sideritic nodules.
276.30	278.70	1.10	46%		277		1.30	CORE LOSS
					278			CLAYSTONE, Medium bluish gray 5B 7/1 silty, sparsely rooted, coalified plant materials at places, at places slickenside, few burrows, filled with sand, scattered dirty white rounded medium size grains, Massive, few sideritic nodules in the middle. Sparsely rooted near bottom, colour changes to medium gray NS, near bottom. P.T.O.
278.70	278.70	3.05	100%		279		2.57	
					282			

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DRILL-HOLE NO **UAK-12**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CLAYSTONE
		3.05	100%		281		2.57	SILTSTONE, CLAYEY, medium dark gray N4 to dark gray N3, contains few siderite nodules, few scattered carby fragments
281.75	281.75				282		0.48	SILTSTONE, clayey, olive black, SY 2/1, massive, sparsely burrowed, burrows filled with sand, inter laminated sandstone in the lower part, sandstone fine grained well sorted, sparse carby fragments, few siderite nodules at places.
		1.20	39%		283		1.20	CORE LOSS
					284		1.85	COAL, UAK-12-1 (sampled)
284.80	284.80				285		0.75	CLAYSTONE, olive black SY 2/1, to medium dark gray, rooted, siliceous, massive, few pyritized plant fragments, disseminated pyrite grains at places, coalified roots and carby fragments at places, upper 10 cm carbonaceous rare dark clay fragments white rounded medium size grains (quartz grain?) scattered in the lower half, grades into siltstone towards base.
		3.05	100%		286		1.70	
					287		0.60	
287.85	287.85				288		0.40	SILTSTONE, brownish gray, SY 2/1, inter-laminated fine sandstone, carby and coaly streaks, few carby fragments, grades into fine sandstone, pebbled.
		0.55	18%		289		2.50	SANDSTONE, Medium dark gray N4 clayey, fine grained, carby and coaly streaks, sparsely rooted, root pyritized.
					290			CORE LOSS P.T.O



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DRILL-HOLE NO. **UAK-12**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	290.00				291			CORE LOSS
290.90					292			CORE LOSS
		NIL	NIL		293		3.00	
	293.20				294			
293.90					295			
		NIL	NIL		296		3.00	CORE LOSS
	296.90				297			
296.90	297.50	NIL	NIL		298		0.60	CORE LOSS
297.50					299			
		0.30	10%		300		2.70	CORE LOSS P.T.O

9,300

DRILL-HOLE NO. **UAK-12**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	300.50						0.20	CORE LOSS
200.50	300.50				301			CLAYSTONE, Brownish gray, 54R 4/1, silty burrowed, filled with medium to coarse subrounded quartz grains, abundant, coaly and carley streaks. Rarely pyritized
		N11	N11		302		3.05	CORE LOSS
	303.55				303			
303.55	303.55				304			
		N11	N11		305		3.05	CORE LOSS
	306.60				306			
306.60	306.60				307		1.80	CORE LOSS
					308			
		1.60	47%		309			SANDSTONE, Medium dark gray N4. interlaminated shale; abundant coaly and carley streaks, sandstone fine grained rippled, contains few sideritic nodules, few carley fragments, pyritized plant fragments.
	310.00				310			
								TOTAL DEPTH: 310.00 METERS.

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Lithologic Log

for

Drill Hole

UAK-13

B302

DRILL-HOLE NO. **NAK13**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
0.0 m					0			Alluvial Cover - (Sandy Clay) Pinkish gray 5YR 4/1 to yellowish gray 5Y 7/1 slightly sandy and silty, sticky when wet, organic surficial material, sand grains are fine.
2.0	2.0 m				1			
					2			Alluvial Cover - (Clay) Pinkish gray 5YR 8/1 to yellowish gray 5Y 7/1 slightly sandy and silty, soft, very sticky, sand grains are fine
4.0	4.0 m				3			
					4			Sandstone (looks river sand) - Light olive gray 5Y 8/1 very fine to fine grained, sub-angular, poorly sorted, ferromanganese grains, micaceous, calcareous, green colored grains probably glauconite, quartz about 50%
6.0	6.0 m				5			
					6			Sandstone (River sand) - olive gray 5Y 4/1, very fine to fine, sub-rounded, moderately sorted, ferromne- -tous grains, micaceous, calcareous, yellowish grains are of limestone, silica grains about 50%
8.0	8.0 m				7			
					8			Sandstone - Same as above
10.0	10.0 m				9			
					10			
					11			
					12			

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DRILL-HOLE NO. WAK-13

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
10.0m					11			Sandstone (River Sand) — olive gray 5Y4/1, very fine to fine, subrounded, moderately sorted, ferromagnesian grains, weathered brown grains, micaceous, calcareous, silica grains about 50%.
12m	12m				12			
					13			Sandstone (River Sand) — Same as above.
14m	14m				14			
					15			Sandstone — olive gray 5Y 4/1, fine grained, sub rounded, moderately sorted, ferromagnesian grains, weathered rusty brown grains, highly micaceous, quartz grains about 45%.
16m	16m				16			
					17			Sandstone (River Sand) — Same as above.
18m	18m				18			
					19			Sandstone (River Sand) — olive gray 5Y4/1, very fine to fine, sub rounded, moderately sorted, ferromagnesian grains, rusty brown weathered grains, highly micaceous, calcareous, quartz grains about 45%.
20m	20m				20			
					21			
					22			

R304

DRILL-HOLE NO. ~~WAK-13~~

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
20m					21			Sandstone (Alluvial Sand) - olive gray 5Y 4/1 to medium dark gray N4, fine to medium grained but mostly fine, sub rounded, poorly sorted, micaceous, calcareous, ferromagnesian grains, quartz grains about 50%.
	22m				22			
22m					23			Sandstone (Alluvial Sand or River Sand) - Same as above.
	24m				24			
24m					25			Sandstone (Alluvial cover) - olive gray 5Y 4/1, very fine to fine, sub rounded, poorly sorted, micaceous, calcareous, ferromagnesian grains, quartz grains about 50%.
	26m				26			
26m					27			Sandstone - Same as above.
	28m				28			
28m					29			Sandstone - olive gray 5Y 4/1, very fine to fine, sub rounded, poorly sorted, micaceous calcareous, ferromagnesian grains, quartz grains about 50%.
	30m				30			
					31			
					32			

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DRILL-HOLE NO **UAK-13**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
30m			61		31			Sandstone (Alluvial Sand) - Same as above
	32m				32			
32m			1		33			Sandstone (Alluvial Sand) - blue gray, very fine to medium, sub-rounded, poorly sorted, micaceous, calcareous, quartz grains about 55%
	34m				34			
34m			0		35			Sandstone (Alluvial Sand) - Same as above
	36m				36			
36m			1		37			Sandstone (Alluvial Sand) - blue gray, very fine to medium, sub-rounded, poorly sorted, micaceous, calcareous, quartz grains about 5%
	38m				38			
38m			0		39			Sandstone (Alluvial River Sand) - blue gray, very fine to fine, sub-rounded, poorly sorted, micaceous, calcareous, quartz grains about 5%
	40m				40			
					1			
					2			

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DRILL-HOLE NO WAK-13

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
40m			57		41			Sandstone - olive gray, 57 1/1, very fine to fine, sub rounded, poorly sorted, micaceous, calcareous, quartz grains about 55%.
	42m				42			
42m					43			Sandstone (Alluvial Sand) - Same as above.
	44m				44			
44m					45			Sandstone (Alluvial Sand) - olive gray, 57 1/1, very fine to coarse, sub rounded, poorly sorted, micaceous, calcareous, quartz grains about 50%.
	46m				46			
46m					47			Sandstone (Alluvial Sand) - Same as above.
	48m				48			
48m					49			Sandstone (Alluvial Sand) - olive gray, 57 1/1, very fine to fine, sub rounded, poorly sorted, micaceous, calcareous, quartz grains about 50%.
	50m				50			
					1			
					2			



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DRILL-HOLE NO **WAK-13**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
50m					51			Sandstone - same as above.
52m					52			Sandstone (Alluvial Sand) - olive gray, 5 1/4", very fine to fine, sub rounded, poorly sorted, micaceous, calcareous, Fe-mg grains, quartz grains about 50%.
					53			
54m					54			Sandstone - same as above.
					55			
56m					56			Sandstone (Alluvial Sand) - olive gray, 5 1/4", very fine to fine, sub rounded, poorly sorted, micaceous, calcareous, Fe-mg grains, quartz grains about 50%.
					57			
58m					58			Sandstone (Alluvial Sand) - olive gray, 5 1/4", very fine to fine, sub rounded, poorly sorted, micaceous, calcareous, quartz grains about 50%.
					59			
60m					60			
					1			
					2			

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DRILL-HOLE NO. **UAK-13**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
60.00					61			Sandstone — Pinkish gray 5YR 8/1 to yellowish gray 5Y 7/2, medium to coarse, sub rounded, moderately sorted, micaceous, slightly calcareous, Ferro magnesium grains quartz grains about 70%.
62.00	62.00				62			Sandstone — Pinkish gray 5YR 8/1 to yellowish gray 5Y 7/2, medium to coarse, sub rounded, moderately sorted, micaceous, slightly calcareous, Fe-mg grains, quartz grains about 70%.
63.39	63.64	0.25	100%		63			COAL SEAM (UAK-13-D) — Grayish black N <sub>2</sub> to black N <sub>3</sub> , non-banded, pyrite, resinous SHALE CARBY — Grayish black N <sub>2</sub> to brownish black 5YR 4/1, conchoidal, sticky, pyrite grains about 70%.
63.64					64		1.90	Claystone (Silty) — Medium dark gray N <sub>4</sub> to dark gray N <sub>3</sub> , medium hard, compact, silty, sandy, sand grains are fine to medium, conchoidal and carby, specks, rare pyrite, very silty in middle part.
	2.61	1.90	79%		65			
					66		0.71	CORE LOSS IN CLAYSTONE
66.25	66.25				67		1.32	Claystone (Silty) with thin laminae and layers of sandstone — Brownish gray 5YR 4/1 and medium gray N <sub>5</sub> , medium hard, compact, sandy laminae and layers, sand grains are fine, conchoidal specks rare.
	3.05	1.48	48%		68		1.57	Sandstone with alternate conchoidal laminae — Medium gray N <sub>5</sub> , very fine to fine. CORE LOSS IN SANDSTONE
					69		0.16	Sandstone with conchoidal specks (conchoidal sandstone) — Brownish gray 5YR 4/1 to grayish black N <sub>2</sub> , medium to coarse, sub rounded, well sorted, conchoidal and carby specks, pyrite grains within conchoidal flakes, rare resin.
69.30	69.30				70			CORE LOSS IN SANDSTONE
					71			Continued
					72			

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DRILL-HOLE NO. ~~UNK~~ 13

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					70			CORE LOSS IN SANDSTONE
	3.05	0.16	5%		71		2.80	
	72.35				72			
72.35					73			CORE LOSS IN SANDSTONE
	3.05	0.08	2.6		74		2.97	
	75.40				75		0.08	Sandstone with Coal, flakes and specks - Brownish gray 5YR 4/1 to grayish black N <sub>2</sub> , medium to coarse, sub-rounded, well sorted, coaly and carbony speck pyrite grains within coaly specks, rare resin
75.40					76		2.40	Sandstone with thin laminae and layers of coal and shaly coal - Medium light gray N <sub>6</sub> and grayish black N <sub>2</sub> , medium hard, medium compact, sand grains are very fine to fine, sub-rounded, well sorted, coaly and carbony laminae are from 0.1 mm to 5 cm thick, plant imprints on coaly flakes at places.
	3.05	2.40	78%		77			
	78.45				78		0.65	CORE LOSS IN SANDSTONE
					79		0.25	Sandstone with thin laminae and layers of shaly coal - same as above.
	3.05	2.0	65%		80		1.55	Shale (Carby) with thin laminae of siltstone and sandstone - Brownish black 5YR 2/1 to grayish black N <sub>2</sub> , medium hard, compact, silty, sandy, sand grains are fine, pyritic, resinous, burrows rare, coaly specks present, grades to sandstone at bottom.
					81		0.20	Sandstone - Light gray N <sub>7</sub> , fine to coarse, sub-rounded, poorly sorted, soft, loose, friable, very rare ferruginous resinous grains, quartz grains about 90%.
	81.50				82		1.05	CORE LOSS IN SANDSTONE

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DRILL-HOLE NO. **UAK-13**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					80			
					81			
	81.50				82		0.50	Sandstone - Light gray N7 to medium gray N5, very fine to medium, subrounded, poorly sorted, soft, loose, friable, rare ferromagnesian grains, quartz grains about 85%.
	3.05	0.50	16%		83		2.55	CORE LOSS IN SANDSTONE
					84			
84.55	84.55				85			Sandstone with silty layers - Light gray N7 to medium dark gray N4, very fine to medium, subrounded, poorly sorted, soft, loose, friable, 0.1m thick two silty layers having coaly flakes and pyrite grains.
	3.05	2.10	68.8		86		2.10	
					87		0.95	CORE LOSS IN SANDSTONE
87.60	87.60				88			CORE LOSS IN SANDSTONE
					89		2.15	
	3.05	0.90	29%		90		0.60	Sandstone with silty layers - Same as above.
	90.65						0.30	Claystone (silty) - Medium light gray N6 to brownish gray S1R4, medium hard, compact, silty, upper part carbonaceous and coaly.
					1			
					2			

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DRILL-HOLE NO. **UAK-13**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	90.65				91			CORE LOSS IN SANDSTONE
	3.05	NIL	0%		92		3.05	
					93			
93.70	93.70				94			CORE LOSS IN SANDSTONE
	3.05	NIL	0%		95		3.05	
					96			
96.75	96.75				97			CORE LOSS IN SANDSTONE
					98			
					99			
99.80	99.80				100		0.25	Sandstone - Light gray, N7 to very light gray, N6, medium to coarse, subrounded, poorly sorted, very hard, well compacted. CORE LOSS IN SANDSTONE Sandstone -
	0.35	0.10	28%				0.10	
	100.15							
					1			
					2			

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DRILL-HOLE NO. **4AK-13**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	100.15							Siltstone with alternate laminae of sandstone. brown, brown. SYR 1/2 medium hard, compact, clayey, sandy, sand laminae & patches present, Coaly specks rare, brownish.
	2.70	1.32	48%		101		1.02	SILTSTONE
							0.18	SANDSTONE
							0.12	SILTSTONE
					102		1.38	Core Loss in SST
102.85	102.85				103		0.30	SANDSTONE with alternate claystone, light grey N7, medium grain, subrounded, moderately sorted, claystone alternate laminae.
	1.35	0.30	22%				1.05	Core Loss in SST
	104.20				104			
104.20							0.92	Sandstone with alternate Coaly laminae, medium light grey N6, very fine to fine, subrounded moderately sorted, soft, loose at place, alternate thin coal laminae, highly variegated, grey to black, coaly laminae at middle & lower part.
	1.70	0.92	54%		105		0.78	Core Loss
	105.90				106			
105.90							1.40	Sandstone Pinkish grey SYR 8, and greyish black N2, very fine to fine, subrounded poorly sorted, soft, loose, friable in upper part, thin coaly & carby laminae in upper & lower part.
	3.05	1.40	45%		107		1.65	Core Loss in SST
	108.95				108			
108.95							0.38	Sandstone Same as above.
							0.67	Core Loss
					110			
					1			
					2			

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DRILL-HOLE NO. **UAK-13**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	3.05	0.58	12%		111			Core Loss
112.0	112.0				112		0.20	Sandstone Medium grey NS to med. light grey NS. Very fine to fine grained, well sorted, light to med. hard.
	3.00	0.20	6%		113		2.80	Core Loss in SANDSTONE
					114			
115.0	115.0				115			
					116		2.10	Core Loss
	3.00	0.9	30%		117		0.90	Claystone claystone with alternate layers of sandstone. claystone is medium dark grey, fine to med. grained, sandstone color. med. hard, med. NS, medium hard; medium cemented.
118.0	118.0				118		0.15	claystone Same as above
							0.80	Sandstone Light grey NS to med. light grey NS. Very fine to fine, subrounded, med. to med. hard, very hard but soft at places
					119		2.05	Core Loss
					120			

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DRILL-HOLE NO. **WAK-13**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	3.00	0.95	31.6%					Core Loss
121.0	121.0				121		0.39	SANDSTONE Yellowish gray Sg 7/2, medium to coarse, subrounded, moderately sorted, very hard, well compact, quartz about 9-1.
	3.05	0.32	10%		122			
					123		2.73	Core Loss
124.05	124.05				124		0.15	SANDSTONE Medium gray N4, fine grained, subrounded, moderately sorted, soft, loose.
							0.20	SANDSTONE Yellowish gray Sg 7/2 + light gray N7, medium to coarse, subrounded, moderately sorted.
	3.05	0.35	11%		125			
					126		2.70	Core Loss
127.10	127.10				127			
					128			
3.05	3.05	0.15	4%		129		2.90	Core Loss in SANDSTONE
					130			
					1			
					2			



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DRILL-HOLE NO. **UAK-13**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
130.15					131		0.15 0.10	SANDSTONE Same as a Yellowish gray Sy 9/2 + dark gray N3, fatty, sand grain, silt to med.
	3.05	0.10	3%		132		2.95	CORE LOSS in SANDSTONE
	133.20				133			
133.20	1.60	1.60	100%		134		1.32	CORE LOSS in SANDSTONE
	134.80				135		0.13 0.15 0.38	CLAYSTONE (CARBY) Medium dark gray N4, clayey, CARBY, fatty, very fine to fine COAL Greyish black N3 to black N1, nonbanded, lignitic, resinous UAK-13-2 COAL
134.80	1.45	1.45	100%		136		1.07	SILTSTONE very light gray N8 to light olive gray Sy 6/1, medium hard, compact, sandy, sand grain and fine subrounded, clay + Carby patches, very sandy at places, rooted
	136.25				137		1.90	SILTSTONE (SANDY) Medium light gray N6 to medium gray N5, hard, compact, sandy, sand grain and mostly fine, clayey at places, grades into Sandstone towards bottom
136.25	3.00	3.00	100%		138		0.30	SANDSTONE (Silty) Medium gray N5 to light gray N7, very fine to fine, subrounded, well sorted, alternating silty sand
	137.25				139		0.90	SILTSTONE (CARBY) Brownish gray Sy R 4/1 to dark gray N3, hard compact, sandy, sand grain and fine to fine, clayey, Carby specks, resinous, fern stems, grains, burrified, clayey near bottom
137.25	3.05	1.40	45.9%		140		1.15	SANDSTONE with interlayered claystone light gray N7, claystone dark gray N3, sand grain and very fine to fine

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DRILL-HOLE NO **UAK-13**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								Embrowned, well sorted, glauconitic, conchoidal, claystone is hard compact & slightly silty & carbony
					141		0.25	SANDSTONE Pinkish gray 5YR 8/1, med to coarse gray, embrowned, poorly sorted, hard, compact, microporous grain, green clay grains
							1.65	CORE LOSS
142.30	142.30				142			
					143		2.10	SANDSTONE Sandstone interlaminated with claystone, medium gray N5 to medium dark gray N4, very fine to fine, embrowned, poorly sorted foraminifera grains, thin coaly laminae with silty & coaly layers, quartz, above 60'
3.0	2.10	70%			144			
					145		0.90	CORE LOSS
145.30	145.30						0.35	SANDSTONE Sandstone interlayered with claystone same as above
1.55	1.55	100%			146		1.20	CLAYSTONE Light bluish gray 5B 7/1 to light gray N7 hard compact, silty, slightly sandy, coaly & carbony specks & patches, slickenside
146.85	146.85				147		0.90	SILTSTONE (SANDY) Light gray N7 to med gray N5, hard compact, sandy, very sandy at places. Sand grains are medium to coarse, coaly & carbony specks & flakes at places, conchoidal
1.50	1.50	100%			148		0.60	SANDSTONE Light gray N7 to medium light gray N6, very fine to medium, embrowned well sorted med hard, compact, lower part soft, friable
148.35	148.35				149			CORE LOSS
					150			

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DRILL-HOLE NO. UAK-13

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DRILL-HOLE NO UAK-13

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	160.50						0.40	SANDSTONE same as above
							0.15	SILTSTONE light blue gray SB 7/1 to light gray N <sub>3</sub> , med hard, med compact, clay, sandy, silty, speck.
					161		120	SILTSTONE (clayey) - light bluish gray SB 7/1 to light gray N <sub>3</sub> , med. hard, compact, clayey layers, sandy patches, coaly and carb. specks rare, variscite rare
	3.05	2.88	94 1/10%		162		0.80	SANDSTONE - light bluish gray SB 7/1 to medium dark gray N <sub>3</sub> , very hard, well compact, sand grains are fine to medium, sub rounded, very silty at places.
					163		0.85	CLAYSTONE with sandy patches - medium dark gray N <sub>3</sub> to dark gray N <sub>3</sub> , medium hard, compact, slightly silty, sandy patches at places
163.55	163.55						0.20	COAL SEAM (UAK-13-3) - grayish black N <sub>3</sub> to black N <sub>1</sub> , non-band
							0.28	COAL SEAM - ed, pyritic, resinous
					164		0.87	SILTSTONE - medium light gray N <sub>3</sub> to medium gray N <sub>3</sub> , hard, compact, sandy, coaly and carb. specks rare
	3.05	3.05	100%		165		1.0	CLAYSTONE - upper 0.4 m is medium light gray N <sub>3</sub> to the lower part is dark gray N <sub>3</sub> , medium hard, compact, silty, at places coal and carb. flakes, fossiliferous lower part more carb.
	166.60				166		0.90	SANDSTONE (silty) - light gray N <sub>3</sub> to medium gray N <sub>3</sub> , very fine to fine, medium to coarse, coaly and carb. specks at places, silty at places, med. hard, looks sorted
166.60					167			
	3.05	3.05	100%		168		2.10	SANDSTONE - medium gray N <sub>3</sub> to medium gray N <sub>3</sub> , inter laminated with claystone - and dark gray N <sub>3</sub> , hard grains very fine - medium to coarse, med. hard, med compact, thin coaly laminae, ripple marks
					169		0.95	SANDSTONE - medium gray N <sub>3</sub> , hard, compact, sandy, fine to medium, coaly and carb. specks and flakes, pyritic grains and patches
169.65					170		1.32	SILTSTONE - same as above

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DRILL-HOLE NO UAK-13

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								SILTSTONE - Same as above
					171		1.32	
	3.0	2.66	88%				0.90	CLAYSTONE - Medium dark gray N <sub>4</sub> to dark gray N <sub>3</sub> , med. hard, med. compact, coaly and carb. plates, slicken-sides present.
					172		0.44	CARBON LENS - Dark gray N <sub>2</sub> to grayish black N <sub>3</sub> , med. hard, medium compact, coaly and carb. plates and spots.
	172.65						0.34	SANDSTONE (Gib.) - Medium gray N <sub>5</sub> to dark gray N <sub>3</sub> , very fine-grained, subrounded, coaly and carb. laminae and spots.
173.65					173			SHALE (Carb.) - Dark gray N <sub>3</sub> to grayish black N <sub>2</sub> , med. hard, compact, slightly sandy, silty, carb. specks, laminous.
							0.93	SANDSTONE - Medium gray N <sub>5</sub> to dark gray N <sub>3</sub> , very fine to fine, sub rounded, moderately sorted, med. hard, medium compact, with few soft, loose friable thin layers.
	3.05	1.13	37%		174			
					175		1.92	CORE LOSS IN SANDSTONE
					176			
	175.70							
175.70					177		2.55	CORE LOSS IN SANDSTONE
	3.05	0.20	6%		178			
							0.50	SANDSTONE - Very light gray N <sub>6</sub> to light gray N <sub>4</sub> , very fine to fine, sub rounded, moderately sorted, coaly specks.
	178.75				179			CORE LOSS IN SANDSTONE
	3.05	NIL	0%		180			

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DRILL-HOLE NO UAK-13

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	3.05	NIL	0%		181		3.05	Core Loss in SST
181.80					182		1.20	Core Loss in SST
184.80	3.00	1.80	0.60		183		1.80	Brownish gray SYR 4/1 to dark gray N3, med hard, Compact, slightly sandy, Coaly & Carby specks, more silt in top & grain in patches, more clayey & caly at lower part
184.80					184			
184.80					185			
	3.05	NIL	0%		186		3.05	Core Loss in SILTSTONE
					187			
187.85					188		1.55	Medium dark gray N4 to dark gray N3, hard Compact, slightly sandy, slightly clayey, Coaly & Carby specks rare more clayey in lower part. Prite & marcasite grain in clods fine.
187.85					189			
					190		1.50	CORE Loss in SST
					191			
					192			

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DRILL-HOLE NO. UAK-13

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	3.05	1.55	50.8%		191			CORE LOSS IN SANDSTONE
190.90					191		0.40	CLAYSTONE (CARBY) Medium dark gray N4 to dark gray N5, medium hard med compact, brightly silty, coaly specks
					192		0.80	SILTSTONE Light bluish gray SB 7/11, med hard, compact sandy, slightly clayey, sand grains are fine to med.
					193		0.38	SHALE (Highly carby) Grayish black N2 very shaly thin layers. Coaly & carby specks, plant imprints & patches.
	3.05	3.05	100%		193		0.27	COAL UAK-13-4 Grayish black N2 to black N1, thin banded, lignitic, various
					194		1.20	SANDSTONE (SILTY) Medium dark gray N4 to medium gray N5, medium to fine grain, subrounded moderately sorted, very silty upper part, soft loose in lower part
193.95					194		0.70	SANDSTONE Light gray N7 + pinkish gray SYR 8/11 very fine to medium grain, subrounded, moderately sorted, soft loose, coaly laminae & patches near bottom otherwise clean 90%
	3.00	0.7	23%		195			
					196		2.30	CORE LOSS IN SST
196.95					197			
196.95					198		2.55	CORE LOSS IN SST
					199			
	200.00				200		0.50	SANDSTONE Medium gray N5 to med light gray N6, very fine to fine subrounded, moderately sorted, fine grain, silty patches, slightly clayey in lower part
200.00					201			
					202			

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DRILL-HOLE NO. **UAK-13**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					201			
	3.0	nil	0%		202		3.0	Core Loss in Sst
	203.0				203			
					204			
	3.0	0.10	3 1/2%		205		3.90	Core Loss in Sst
	206.0				206		6.10	SILTSTONE Sandy medium grain NSt dark gray N4, very hard, well contact, sandy, sand grains are very fine to fine, coaly & carbonaceous specks & patches locally present and numerous.
					207			
					8			
					9			
					0			
					1			
					2			

END



8323

Lithologic Log

for

Drill Hole

UAK-14

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DRILL-HOLE NO. **UAK-14**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE #					
0.00					1		2.0	Alluvial cover (Clay) Pinkish gray Sy 8/11, silty and fine sandy at places, soft, sand grains are almost fine, sticky due to clay when wet
2.00					2		2.0	Alluvial Cover (Clay) Same as above
4.00					3		2.0	
4.00					4		2.0	Clay (Alluvial) yellowish gray Sy 8/11
6.00					5		2.0	
6.00					6		2.0	Clay (Alluvial) yellowish gray Sy 8/11 to
8.00					7		2.0	Pinkish gray Sy 8/11, silty and sandy Sand grains are very fine, lower part of the unit grading to Sandstone.
8.00					8		2.0	Sandstone yellowish gray Sy 8/11
10.00					9		2.0	Sand grains are fine, silty and clayey materials at places may be from the upper unit?
					10			
					11			
					12			

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DRILL-HOLE NO. **UAK-14**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
10.00					21		2.0	Sandstone Yellowish gray sy 8/1 to light light greenish gray sy 6/8 8/1 fine to medium grained
12.00					12		2.0	Sandstone Yellowish gray sy 8/1, fine to medium grained, subangular to subrounded, mostly subangular, ferromagnesian grains, micaceous, Qtz grain are nearly 90%
14.00					14		2.0	Sandstone Same as above
16.00					16		2.0	Sandstone Light yellowish gray sy 8/1 to light greenish gray sy 8/1 medium to fine, but mostly fine, subangular, poorly sorted ferromagnesian grains present. Quartz percentage about 90%
18.00					18		2.0	Sandstone Yellowish gray sy 7 1/2, fine grained, moderately sorted ferromagnesian grains present, micaceous, green coloured grains present may be glauconite?
20.00					20			
					21			
					22			

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DRILL-HOLE NO. **UAK-44**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
20					21		2.0	Sandstone Same as above
	22.00		S		22			
22.00			N		23		2.0	Sandstone Yellowish gray sy 8/1 to olive gray sy 6/1, fine grained mostly subrounded, moderately sorted, ferromagnesian grains, micaceous, dirty about 80%
	24.00		R		24			
24.00			O		25		2.0	Sandstone Yellowish gray sy 8/1 to light olive gray sy 6/1, medium to fine, subangular to subrounded, ferromagnesian grains, micaceous, weathered rusty brown grains, dirty about 80%
26.00					26			
	28.00		C		27		2.0	Sandstone Same as above
28.00			N		28			
	30.00		O		29		2.0	Sandstone Same as above
			N		30			
					31			
					32			

DRILL-HOLE NO. **44K-14**

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DRILL-HOLE NO. UAK-14

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
40.00					41		2.00	Limestone Pale yellowish orange 10YR 8/6 to grayish orange 10YR 7/4, sandy highly fossiliferous, abundant forams, shell fragments, rusty brown grains from overlying alluvial cover
	42.00				42		2.00	Limestone Same as above
				G	43			
44.00	44.00			N	44		2.00	CLAY clay (sandy) light brownish gray 5YR 6/1; slightly sticky when wet, sandy, sand grains are fine to medium, fossil fragments from overlying ls, soft
				R	45			
	46.00			O	46		2.00	CLAY clay (sandy) light brownish gray 5YR 6/1 to brownish gray 5YR 4/1; sandy, sticky when wet, fossil fragments but very rare may be from the overlying ls and
48.00	48.00			N	47			
				O	48		2.00	CLAY Same as above
				N	49			
	50.00				50			
					51			
					52			

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DRILL-HOLE NO. **WAK-14**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
50.00					51		2.00	CLAY Same as above
52.00	52.00				52		2.00	CLAY clay (sandy) Light brownish gray SYR 6/1 to brownish gray SYR 4, Sandy, sticky when wet. fossil fragment from overlying ls unit
54.00	54.00				53		2.00	
54.00					54		2.00	ls (Sandy) light gray N7 to med light gray N6, Sandy, fossiliferous, abundant forams, rare shell fragments
56.00	56.00				55		2.00	
56.00					56		2.00	CLAY Clay (Sandy) Light brownish gray SYR 6/1 to brownish gray SYR 4/1, Slightly Sandy, sticky when wet.
58.00	58.00				57		2.00	
58.00					58		2.00	
60.00	60.00				59		2.00	CLAY Same as above
60.00					60		2.00	
					1			
					2			

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DRILL-HOLE NO. UAK-14

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
60.00					61		2.30	Grayish orange log R 7/4 to yellowish gray 5Y 7/2, highly fossiliferous mostly forams, rare shell fragments
	62.30				62		0.10	Lst Grayish orange log R 7/4 to moderate yellowish brown log R 5/4, very hard, well compact, Cryptocrystalline, highly fossiliferous, mostly forams, reddish brown grain rare
63.05	0.75	0.10	13%		63		0.65	Core Loss in Sandstone.
63.05	63.05				63		0.45	Core Loss in Sandstone.
	2.95	2.50	84.7		64		2.50	SANDSTONE (Muddy) Medium dark gray N4 to dark gray N3, fine to medium grained, burrowed, moderately sorted, muddy slightly silty at places, carbonaceous patches, & flakes, green coloured grain? Pyritic very hard silty sandstone layers present at places.
	66.00				66		0.20	Lst crush pollen from upper lake level bed
					67		0.35	CARBON SHALE Dark gray N3 to gray, medium hard, well compact, coaly, silty, speckled, pyritic, resin, plant in prints present.
					67		0.95	CLAYSTONE Medium dark gray N4 to dark gray N3 hard, compact, slightly silty, slightly sandy at places, coaly & carbonaceous, pyritic patches present.
	3.05	2.75			68		1.25	SANDSTONE (Muddy) Medium dark gray N4 to dark gray N3, fine to medium grain, coarse grain at places, poorly sorted, muddy, Qtz about 60%, burrowed.
69.05	69.05				69		0.80	Core Loss in Sandstone
	3.05	0.75	24%		70		0.75	SANDSTONE (Muddy) Medium dark gray N4 to dark gray N3, fine to medium grain, coarse grain at places, poorly sorted, muddy, Qtz about 60%, burrowed.



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DRILL-HOLE NO. **UAK-14**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					71		2.30	Core Loss in Sandstone
	72.10				72			
72.10					73			Core Loss in Sandstone
		3.00	0.30	10%	74		2.70	
	75.10				75		0.30	Sandstone. Medium light gray N6 to medium gray NS, v. fine to fine, subangular, subrounded, poorly sorted, soft, medium compact, coaly laminae at place, silty & sandy towards bottom, 913 grain about 65%.
75.10					76			Core Loss in Sst
		3.05	NIL	0%	77		3.05	
	78.15				78			
78.15					79			Core Loss in Sst
					80			
					81			
					82			

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DRILL-HOLE NO. **YAK-14**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
	3.05	0.10	3%		81		2.95	Core Loss in Sst
81.20					81		0.10	Claystone Medium dark gray N4 to dark gray N3, slightly silty and sandy, coaly & carbony flakes, pyritic, stickenside present
81.20					82			
	3.05	NIL	0%		83		3.05	Core Loss in Sst
84.25					84			
84.25					85			
	3.00	NIL	0%		86		3.00	Core Loss in Sst
87.25					87			
87.25					88			
	3.05	0.40	13%		89		2.65	Core Loss in Sst
					90		40	SANDSTONE Medium dark gray N6, medium to fine grain subrounded, poorly sorted, slightly silty, rare coaly specks, rare pyrite, Qtz about 10%, silty towards bottom
					1			
					2			

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DRILL-HOLE NO **UAK-14**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
90.30							0.20	SILTSTONE Light bluish gray SB711, soft to medium hard, medium compact clayey, slightly sandy at places, rare coaly + carbony specks, pyritic + resinous
					91		0.50	CARBON SHALE Dark gray N3 to grayish black N2, medium hard, medium compact, slightly sandy, coaly + carbony specks, resinous, pyritic, more coaly towards bottom
							0.35	COAL SEAM UAK-14-1 Grayish black N2 to black N1, pyritic, resinous, comparatively high sp. gravity, thin banded
3.05	3.05		100%		92		2.00	CLAYSTONE Medium dark gray N4 to dark gray N3, hard, compact, silty at places, more carbony in upper part, lower part comparatively less carbony, sideritic in lower part. lower 0.10 m very sandy
45.35					93			
93.35					94		2.25	Core Loss in Siltstone
3.05	0.80		26%		95			
96.40					96		0.80	Siltstone (clayey) Medium dark gray N4 to medium gray N5, hard, compact, slightly sandy, clayey, carbony patches, pyritic, rare resin, rare sideritic nodules
96.4	0.75	0.75	100%		97		0.75	CLAYSTONE (Silty) Dark gray N3 to grayish black N2, highly silty, carbony at places, fine grains sandstone lamination present at place. lower 0.05 m of the unit is medium gray N5 of high sp. gravity
97.15					98		1.19	CLAYSTONE bluish gray SB711, coaly + carbony specks, silty at places, slickenside, pyritic
2.25	1.95		8%		99		0.20	Core Loss in claystone
							0.32	CARBON SHALE (Highly carbonaceous) Dark gray N3 to grayish black N2, pyritic, comparatively high sp. gravity
99.40							0.49	COAL UAK-14-2 Grayish black to black N1, pyritic, comparatively high sp. gravity, may be due to pyritic, resinous, non banded
99.40							0.18	COAL Same as above
							0.20	SILTSTONE Medium dark gray N4, medium hard, medium compact, sandy, coaly + carbony patches, sand to mostly fine, slightly clayey
					100			

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DRILL-HOLE NO. **UAK-14**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
							0.52	CLAYSTONE olive gray, silty, med. hard, med. compact, silty at base, slightly sandy, coaly & carbony flakes, potant in forams, rooted
	3.05	245	89%		101		1.15	SILTSTONE light bluish gray SB 711, med. dark gray N4, sandy, at places very sandy, sand grains are fine to med. rounded towards bottom, coaly & carbony.
					102		0.45	SANDSTONE Med. gray NS, very fine to fine, subrounded, poorly sorted, silty, certz about 60%, alternate silty layers, pyritic, sideritic nodules, torseals.
	102.45						0.55	Core Loss in Sandstone.
102.45					103			
					104		3.05	Core Loss in Sandstone
	3.05	NIL	0%		105			
	105.50						0.10	SANDSTONE Light gray N7, fine to med. grain, subrounded, well sorted, soft, loose, friable, rare ferromagnesian grain, carbony parings, certz about 90%.
105.50					106			
					107		2.95	Core Loss in Sandstone
	3.05	0.10	3%		108			
	108.55							Core Loss in sst
108.55					109		0.10	Coal Grayish black N1 to black N1, non banded, resinous, pyritic
	0.80	0.30	37%				0.20	CLAYSTONE (CARBY) Dark gray NS to grayish, black N2, med. hard, med. compact, coaly, carbony
109.35							0.55	SILTSTONE Med. gray NS to light bluish gray SB 711, med. hard med. compact, clayey, slightly sandy, sand grains are med. coaly, dark, rooted
					110			

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DRILL-HOLE NO. 44K-14

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	2.25	0.55	24 1/2		11 1		1.70	Core Loss in Siltstone.
	11.60				11 2			
	3.05	3.05	100		11 3		3.05	SILTSTONE Medium gray NS to light bluish gray SB 71, near bottom is medium dark gray Nu, medium hard, Compact, Clayey at places, Sandy, Sand grains are medium to coarse, Coaly carbony specks, pyrite grains, near bottom very hard sandstone
	114.65				11 4			
					11 5		0.25	SILTSTONE with alternate layers of sst, medium dark gray NS to dark gray NS, medium hard, medium compact, sandy, coaly carbony specks, sand patches, percent
					11 6		0.20	SANDSTONE light gray NS and medium gray NS, fine to coarse grained, subangular, poorly sorted, ferromagnesian grains present, cherty, about 80%, rare pyrite
	3.05	0.45	14 1/2		11 7		2.60	Core Loss in Sandstone.
	117.70				11 8			
					11 9		2.95	SANDSTONE brownish gray SB 41 and light olive gray SB 61 Sandstone grains are fine to medium, subangular, poorly sorted, very hard, well compact, mostly smoky streaky, quartz grains are about 90%, nodules of silty sandstone brownish gray colour, very hard comparatively high sp. gravity
					12 0			Core Loss in SS +

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DRILL-HOLE NO 4AK-14

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	3.05	0.10	3%					Core Loss in Sst.
120.75	120.75							
120.75					121		0.35	Core Loss in Sst
							0.29	SANDSTONE light gray NS to medium gray NS, fine to medium grained, subangular, moderately sorted, very hard, well compact, quartzitic, high sp. gra h
	3.05	2.70	88%		122			medium dark gray NS to dark gray NS, alternate sandy layers and laminae, present, medium hard, medium compact clayey at places, coaly and carbony specks present, resin & pyrite present
					123		2.41	Sand grains are very fine to fine, towards bottom clayey
123.80	123.80							
123.80					124			Medium gray NS to dark gray NS, very fine to fine, subrounded, poorly sorted at places, very silty, coaly & carbony specks present, Sandstone siltstone ratio is almost 55:45 respect
	3.05	3.05	100%		125		3.05	rare resin and pyrite toward bottom more sandy, clayey patches present.
					126			
126.85	126.85							
126.85					127		1.55	Core Loss in Sandstone
	3.05	1.50	49%		128			
					129		1.50	Siltstone with alternate thin patches of Sandstone, medium gray NS to dark gray NS, medium hard, medium compact sandy, sand grain are very fine to fine, carbonaceous, coaly and carbony specks, rare pyrite patches.
129.90	129.90							
129.90					130			

DRILL-HOLE NO. **4AK-14**

**DRILL-HOLE NO**

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DRILL-HOLE NO **UAK-14**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE%					
	3.00	NIL	0%		141		3.00	Core Loss in Sst.
142.05	142.05				142			
	3.00	NIL	0%		143		3.00	Core Loss in Sst.
145.05	145.05				144			
	3.00	NIL	0%		145		3.00	Core Loss in Sst.
148.05	148.05				146			
	3.00	NIL	0%		147		3.00	Core Loss in Sst.
148.05	148.05				148			
					149			Core Loss in Sst.
					150			
					1			
					2			



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DRILL-HOLE NO UAK-14

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	3.05	0.45	14%				2.60	Core Loss in Sst
	151.10				151		0.45	Sandstone medium gray NS to light blue gray 5.6/1, medium hard, medium compact, sand grains are medium to fine grains, coaly, carbony specks, present
151.10					152			Core Loss in Sandstone
	3.05	0.55	18%		153		2.50	
	154.15				154		0.20	CLAYSTONE light bluish gray 5.6/1 to light gray NS, medium hard, medium compact, coaly & carbony specks, siliceous, present
	154.15				154		0.35	SILTSTONE light gray NS to medium light gray NS, sandy & clayey at places, sand grains are fine. Silty stone is medium hard, medium compact
154.15					155		0.60	SILTSTONE light gray NS to medium light gray NS, sandy at places, sand grains are fine to medium, clayey at places, silty stone is medium hard, medium compact
					155		0.75	SILTSTONE same as above
					156		0.13	COAL grayish black NS to black NS, resinous, non banded, pyritic
	3.05	3.05	100%		156		0.60	CLAYSTONE (Silty) medium gray NS to medium light gray NS, medium hard, medium compact, slightly silty, sandy at places, siliceous, present, rooted
	157.20				157		1.15	SILTSTONE (Sandy) light bluish gray 5.6/1 to medium light gray, hard, compact, very carbony specks, sand grains are mostly fine, clayey patches at places.
157.20					158		0.07	COAL grayish black NS to black NS, pyritic, resinous, non banded
					158		0.65	SILTSTONE medium gray NS to medium light gray NS, hard, compact, sandy, clayey patches at places, wavy, 0.10% more clayey, carbony specks, sand grains are fine
	3.05	2.65			159		1.93	SANDSTONE (Silty) light gray NS to medium gray NS, fine to medium grained, subrounded, poorly sorted, silty, coaly and carbony specks rare, alternate silty patches, burrowed, sand and silt 60:40%
					160		.15	Core Loss in Sst

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DRILL-HOLE NO

UAK-14

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
160.25	160.25						0.25	Core Loss in Sst.
							0.10	CLAYSTONE
							0.13	COAL
	160.35							Medium light gray N6 to medium gray N5, hard, Compact slightly sandy, siliceous side, Coaly, Carbon specks, non banded
	161.05	3.05	3.05	100%			2.20	CLAYSTONE (Silty)
	163.50						0.60	SILTSTONE
163.30	163.30							Medium gray N5, hard Compact, sandy, rare Coaly, Carbon specks, sand grains fine to medium and coarse grain, banded, sandy bottom
	163.50							Core Loss in Sst
	164.50	3.05	NIL	0%			3.05	
	166.35							
166.35	166.35							
	167.50							
	168.50	3.05	NIL	0%			3.05	Core Loss in Sst
	169.40							
169.40	169.40						0.60	Core Loss in Sst

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DRILL-HOLE NO. **UAK-14**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
							0.80	Core Loss in SST
	3.05				17.1		0.50	SILTSTONE (clayey) Medium light gray N6 to medium gray N5, hard, Compact, very sandy and clayey at places, Coaly, Carby specks, rare pyrite + resinous patches
							0.20	CARBY SHALE Dark gray N3 to grayish black N2, med hard, slightly sandy, silty, Coaly, Carby specks
							0.46	SILTSTONE Medium gray N5 to medium dark gray N4, hard, Compact, sandy, Coaly, Carby specks, rooted, highly pyritic, lower part more Coaly, Carby
	172.45				17.2		0.13	COAL (shaly) Grayish black N2 to black N1, soft, brittle, Pyritic, resinous, shaly, sandy
							0.36	CARBY SHALE Dark gray N3 to grayish black N2, medium hard, medium Compact, silty, Coaly specks + flakes
172.45					17.3		0.90	CLAYSTONE Medium dark gray N5 to medium dark gray N4, medium hard, medium Compact, silty in lower part, Coaly + Carby specks
	3.00	3.00	100%		17.4		1.04	SILTSTONE Medium gray N5, medium hard, medium Compact, clayey and sandy, Coaly + Carby specks present, in lower part more Carby
	175.45				17.5		0.16	CARBY SHALE Grayish black N2, medium hard, medium Compact, vitreous, Coaly specks
175.45							0.35	CARBY SHALE Same as above
					17.6		1.03	SANDSTONE with alternate silty and clayey layers, medium dark gray, to light gray N7, sand grains are very fine to fine, subrounded, poorly sorted, alternate sandy + silty layers, Coaly + Carby specks
	3.00	1.38			17.7		1.62	Core Loss in SST
	178.45				17.8			
178.45					17.9		1.55	Core Loss in SST
	180.00				18.0			
					END			

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Lithologic Log

for

Drill Hole

UAK-15

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DRILL-HOLE NO. **UAK-15**

CORE RECOVERY				WATER LOSS	DEPTH IN METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
1					1			<u>ALLUVIUM</u> ALLUVIAL SILT:- Yellowish gray SY 7/2. contains very fine grained (VFL) Sand, occasionally some flakes of muscovite observed. Some grains of dark color of FeMg minerals also observed.
2	2				2			ALLUVIAL SILT:- Same as above.
					3			
A	4				4			ALLUVIAL SILT:- Same as above.
					5			
6	6				6			ALLUVIAL CLAY/SILTY:- Light gray N-7 (color of clay) & yellowish gray SY 7/2 (silt clay is silty, and contains some grains of very fine sand well sorted, and few flakes of Muscovite.
					7			
8	8				8			ALLUVIAL SILT:- Yellowish gray SY 7/2 silt is slightly clayey, consists of fine grained sand (VFL) Brownish, blackish & reddish color grains of FeMg minerals sparsely observed.
					9			
	10				10			
					11			

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DRILL-HOLE NO UAK-15

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
10.00					10			ALLUVIAL SILT: Same as above.
					11			
12.00	12.00				12			ALLUVIAL SILT: - Same as above i.e. from 8-10m.
					13			
14.00	14.00				14			ALLUVIAL GRANULES AND PABBLES: - Mostly highly calcareous average color - noted, i.e. yellowish brown and brownish - yellow. Selected grains showed dark yellow - ish orange 10YR (6/6). Dusty yellowish brown (10YR 2/2) Average grain size range is - 2mm to 12mm. Subangular to subrounded. Well sorted. Lower contact is with Alluvial silt. In a selected grain clear Qtz grains observed.
16.00	16.00				16			ALLUVIAL GRANULES with little proportion of very coarse sand. Color is the same as above average grain size is 1-4m. Compar- atively decrease, sphericity and round- ness increases as compared with the upper unit. Highly calcareous.
18.00	18.00				18			ALLUVIAL GRANULES: Rest all is the same except the increased proportion of very coarse sand.
					19			
20.00	20.00				20			
					21			

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DRILL-HOLE NO UAK-15

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
20.00					20			VERY COARSE ALLUVIAL SAND; with some proportion of granules as well as coarse sand, sorting not good, other features are smaller as above.
	22.00				21			
22.00					22			ALLUVIAL SAND: same as above except the grain the grain size, grain size increases slightly.
					23			
	24.00				24			ALLUVIAL SAND: same as above.
24.00					25			
	26.00				26			ALLUVIAL COARSE SAND:- Pale yellowish orange 10 YR 8/6 to light brown 5YR 6/4, medium sorting with fine grain in higher proportion. Mostly subangular and flakey fragments. Darker tint may be due to iron oxide.
26.00					27			
	28.00				28			ALLUVIAL COARSE SAND:- same as above.
28.00					29			
	30.00				30			

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DRILL-HOLE NO. **UAK-15**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
30.00					30			SILTY CLAY:- Light brownish gray (5YR 6/1) with greenish brown (5YR 3/2) tint, sticky where clayey, some light yellowish brown sand grains (may be fallen from upper horizon).
	32.00				31			
32.00					32			SILTY CLAY: same as above.
					33			
34.00	34.00				34			SANDY CLAY:- Generally yellowish gray (5YR 7/2). Coarse to very coarse grained sand embedded in clayey material. Sand grains are mostly pale yellowish brown, (10YR 6/2) Light to medium light gray tint of clayey material is also noticeable.
					35			
36.00	36.00				36			SANDY CLAY:- Same as above. But yellowish brown tint of clayey material is increased.
					37			
38.00	38.00				38			SANDY CLAY:- Same as above.
					39			
	40.00				40			

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DRILL-HOLE NO. **WAK-15**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
40.00					41			GRAVEL AND PABBLES :- Freshly broken irregular and angular fragments of calcareous material are very common in very coarse sandy material, General color is Light to Dark brown, selected fragments showed, dark yellowish orange (to YR 6/6) dark yellow brown (to YR 4/2)
42.00	42.00				42			GRAVEL AND PABBLES :- Same as above.
					43			
44.00	44.00				44			GRAVELS AND PABBLES Same as above.
					45			
46.00	46.00				46			SILTY CLAY :- Dark gray N3 with - grayish black (H2) tint as places. Sof and sticky, contains some coarser grains probably from upper horizon.
48.00	48.00				48			SILTY CLAY :- Same as above
					49			
	50.00				50			

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DRILL-HOLE NO UNK-15

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					51			SILTY CLAY:- Dark gray N3 with grayish-black (H <sub>2</sub> ) tint at places, soft sticky-coarser, grains from upper knowledge.
					52			SILTY CLAY:- Same as above.
					53			
					54			SANDSTONE:- Dark greenish gray (5G4/1) to olive gray (5Y4/1) coarse to medium grain-nd sandy. Dark green glauconitic grains and clear transparent Qtz grains ad-mixed together, subangular fairly sorted.
					55			
					56			SANDSTONE:- Same as above
					57			
					58			SANDSTONE: same as above.
					59			
					60			
					1			

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DRILL-HOLE NO. **WAK-15**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					61			SANDSTONE: Same as above.
					62			SANDSTONE: - Greenish black to Dark gray medium to coarse grained, subangular to subrounded, lesser glauconitic grains.
					63			
					64			SANDSTONE: Same as above
					65			
					66			Sand stone: Same as above
					67			
					68			SANDSTONE Medium to fine grained olive gray fairly sorted, subangular to subrounded, Glauconitic sand
					69			
					70			
					71			

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DRILL-HOLE NO. **UNK-15**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					70			SANDSTONE: Same as above.
					71			
					72			SANDSTONE: Olive gray fine to medium gr, silty, medium sorting. Subangular to sub-rounded, friable.
					73			
					74			SANDSTONE: Same as above.
					75			
					76			SILTY CLAYSTONE: olive gray, to dark gray interclations of fine to very fine laminae of fine sand, Glauconitic, finely laminated and lignitic, massive, Burrowed, organic - silty nodules lower part of fine grained S.st.
76.20								CORE LOSS
								CORE LOSS
	77.10				77			CLAYSTONE: - Medium gray to medium dark gray very fine laminae of fine sand, massive to finely laminated, Hard, Compact and sticky.
77.12								
	78.00				78			SILTY SANDSTONE: Upper half dark greenish gray to olive gray, lower half medium light gray to med gray, lower part dense, Lignitic specks, very fine to fine gr. sub-angular to subrounded, massive, med compact, to friable
					79			SANDSTONE: - Med dark gray to dark greenish gray fine to very fine, subangular to subrounded, med hard, friable. Rarely Lignitic specks
					80			SANDSTONE: Same as above except last 20cm contain shell fragments scattered and unidentifiable

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DRILL-HOLE NO. **unk-15**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					80			
81-15					81		0.35	SANDSTONE:- Transparent Qtz and glauconite Greenish gray med to fine grained subrounded, rounded, Calcareous, shell debris.
					82			CORE LOSS
82-70							1.20	
							0.15	CORE LOSS
83-45					83		0.60	SILTSTONE:- Medium gray to med dark gray clayey fine grained sand laminae at places, Burrowed, Pyritized plant material, Glauconitic
					84		0.33	CLAYSTONE; med gray to med bluish gray, Pyritic, Sideritic, sand filling in small cavities medium hard, plant material present.
					85			CORE LOSS
							1.97	
					86			CORE LOSS
							1.00	SANDSTONE:- Alternate fine bands of Coaly matter and clay, Dark greenish gray, well sorted fine grained, Rounded to subrounded. Pyrite Glauconite, Passer to wavy bedding, fine coal laminae, Siderite, rarely roots,
					87		0.50	
								CLAYSTONE (SILTY): Upper 10cm Sandy, Olive gray to med light gray Sideritic, Coaly, Pyritized, plant material at places.
					88		1.00	CORE LOSS
								SANDSTONE:- very light gray coarse grained - subrounded well cemented, dense calcareous, Qtz rich, Glauconite rare, Coaly specks;
					89			CORE LOSS
					90		1.97	

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DRILL-HOLE NO. **UAK-15**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					90			
					91			CORE LOSS.
91.70					92		0.20	CORE LOSS
92.20	92.20						0.30	SANDSTONE: - Light olive gray to med light gray med grained, friable, subangular to subrounded, glauconite upper part clayey, lower part hard dense compact, fine to med grained,
92.30	92.30						0.10	
							.35	
					93			SANDSTONE/SILTY: - Fine to med grained med light gray to med dark gray coaly flakes, nodular calcareous dense sst at places.
93.50	93.50						0.10	SILTSTONE: - Light olive gray to med gray, fine laminae of v. fine sst intercalated, sidrite at the bottom wavy bedding,
93.95	93.95				94		0.35	
							0.20	CORE LOSS
								CORE LOSS
95.05	95.05				95		90	SILTSTONE: - olive gray, fine lamination of fine sand of dark greenish gray color, sidrite in upper part.
								CLAYSTONE/SILTY: - Brownish gray to med dark gray small cavities filled with fine grained transparent @ 13, Pyrite patches sidrite at the bottom.
							0.75	CORE LOSS
					96			CORE LOSS
96.70							0.50	SANDSTONE/ Lower 16cm CLAYSTONE: Med dark gray to brownish gray, med grained, subrounded, friable, poorly cemented, black claystone is silty, compact med hard coaly flakes
							0.20	
								SANDSTONE: - olive gray to brownish gray dense very hard compact, upper part med grained lower part very fine grained glauconite upper 16cm conglomeratic dense very hard and compact
97.00	97.00				97		0.44	CORE LOSS
								CORE LOSS
					98			SANDSTONE: Med bluish gray to med gray, SILTY, very fine to fine grained clayey at places glauconitic, lower part friable and soft upper part denser and hard
							1.65	
					99			SILTSTONE/CLAYEY. Med dark gray to dark gray fine coaly laminae and flakes, pyritic, poorly preserved plant fragments at places, middle part sandy massive to finely laminated lower part is flaser bedded.
	99.30						0.69	
					100			

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DRILL-HOLE NO. **UAK-15**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					100		0.86	
								CORE LOSS
					101		0.38	SILTSTONE: Med light gray to med dark gray, fine lamination of sand and sidrite, coaly flakes, pyrite, 3rd plant fragments
								CORE LOSS
					102		1.22	
								CORE LOSS
					103		1.02	SILTSTONE med dark gray to olive gray generally clayey, sand lamination at places
							.43	Sidrite,
					104		.52	SIDRITE NODULE: Brownish gray dense hard compact contains a cavity filled with Qtz grains
	104.35							CORE LOSS
							.57	CORE LOSS
					105		.48	SANDSTONE: - SILTY: Fine to med grained subangular to subrounded, med sorted, friable
							.40	Sidrite in lower part olive gray to med dark gray, Glauconitic black specks (coaly?)
					106			SILTSTONE/CLAYEY: Brownish gray to med gray fine to very fine, coaly and clayey lam near sticky where clayey lower part more - coaly,
								CORE LOSS
					107			CORE LOSS.
					108		2.65	
108.45	108.45							
					109		1.30	
	109.75							
					110			

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DRILL-HOLE NO UAK-15

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
							.65	CORE LOSS
110.90	110.92				111		.40	CLAYSTONE (SILTY at places). Fine coal lamination in upper part, Dark gray to brownish gray, and brownish black where coaly. Pinkish gray to yellowish gray, tiny unidentified specks. Finally laminated.
111.50	111.50						.70	CLAYSTONE/SILTY: Alternative fine lamination of coal. similar to upper unit.
111.50								CORE LOSS
					112			SILTSTONE/CLAYEY, sand laminations, coal fragment at places, pyritic. Brownish gray to greenish gray, fine wavy bedding. Generally compact, but friable where sandy.
					113			SANDSTONE: sst. Med dark gray to dark gray. Flaser lamination of coal, coal is grayish black to barely brownish gray, sst. fine to med grained. Coarse grained patches at places. Medium sorting. Richly pyritic. Residue in coal is dirty, soft easily breakable. Lignitic to subbituminous. dull in luster.
114.55	114.55				114		2.60	
114.55							0.45	
					115		0.11 0.15 0.20	COAL: Grayish black to brownish black. Sst 2/1. Soft dirty, lignitic to subbituminous. breaks easily, richly pyritized plant material, resinous.
116.00	116.00				116		1.10	CARBONECEOUS SHALE: Dark gray to grayish black, poorly preserved organic material, coal flakes and fragments common, richly pyritic, denser and harder than upper coal.
116.00							0.58	
					117			CORE LOSS
117.60	117.60						1.02	CLAYSTONE (upper 10cm carb. shale similar to upper unit) med dark gray to dark gray. Rich in plant fragments. Pyritic coal flakes and partings common, massive to finely laminated.
					118			CORE LOSS
								CORE LOSS
117.10	117.10				119		1.37 2.13	SANDSTONE: Light gray to very light gray. Fine to very fine grained, med sorted, cemented, hard, glauconitic, very fine coal laminations in upper part, few clay laminae.
								CORE LOSS
					120			



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DRILL-HOLE NO. UAK-15

CORE RECOVERY				WATER LOSS	DEPTH IN METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS.
							1.55	CORE LOSS
					121			CORE LOSS
								CORE LOSS
122.45					122		1.50	INTERBEDDED SILT & SANDSTONE: Siltstone med dark gray - s.st very light gray to light olive gray. Silt beds thinner than sand beds, coalified organic fragments in siltstone, dark minerals in s.st, calcareous at places (s.st). Hard compact s.st is fine grained and well sorted.
					123			INTERBEDDED SILT & SANDSTONE Same as above.
	123.71						1.55	CORE LOSS - do -
					124			INTERBEDDED SILT & SANDSTONE s.st Light gray to light olive gray siltstone brown- ish gray to olive gray. s.st fine grained well sorted, Burrowed, Burrows filled with med sand, Pyritic,
					125			
							1.72	CORE LOSS
125.08							0.25	
							0.17	
					126			CORE LOSS
							0.93	
					127			
					128		1.40	
							0.15	
					129			
							0.50	
					130			

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DRILL-HOLE NO UAK-15

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CORE LOSS
					131			INTERBED SILT & SANDSTONE: Same as above
	132.05				132		2.10 0.18 2.10	CLAYSTONE/SILTY (with fine sand lamination) Brownish gray to med dark gray, sticky - Partially coalified plant fragments, Pyritic sand laminae comprises of med grained subrounded to rounded sand, well sorted,
132.05								CORE LOSS
								CORE LOSS
					133			CORE LOSS
					134			SANDSTONE: Light gray, coarse gr - subangular to subrounded Qtz rich. Rarely Fe Mg minerals
	135				135		2.75	SIDRITIC NODULE & SANDSTONE: - Yellowish gray to light olive gray, hard, compact,
135								CORE LOSS
	135.90				136		.80	CORE LOSS
135.90					137		1.37 1.38	SANDSTONE/SILTY: Med gray, med grained well sorted, subrounded to rounded, Rooted Pyritic, Coal specks,
	137.35							SANDSTONE/SILTY: Same as above
	137.90				138		0.50 0.6	
	138.95				139		1.40 0.30	
138.95					140			

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DRILL-HOLE NO. **UAK-15**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	140.43						1.18	CORE LOSS
140.43					141		0.45	CLAYEY SILTSTONE; with fine Lamination of sand, i- Med dark gray, Med hard Rooted, Burrowed, Pyritic, Sidritic, Rarely Coarse sand
	142.00				142		1.12	CORE LOSS
142.00							0.28	SILTSTONE CLAYEY:- Same as above
	143.53				143			CORE LOSS
					144		1.67	
					145		1.10	
					146			
147.05					147		2.00	SANDSTONE:- Light olive gray loose friable, Fine to med grained, Silty, Sub- rounded to rounded, moderately Sorted
	148.00				148		1.05	SILTY CLAYSTONE:- Med dark gray Hard Compact, Pyritized, organic matter present,
					149		0.90	
	149.45						0.35	
					150			

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DRILL-HOLE NO. **UAK-15**

CORE RECOVERY				WATER LOSS	DEPTH 150 METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
							0.60	SILTY CLAYSTONE same as above
							0.40	SILTSTONE clayey, sandy silt and clay dark gray sand light olive gray, Rooted carby matter, pyritic
154.15	154.15				151		0.70	SANDSTONE: med gray to med light gray fine grained, med hard, compact, silty at places. Pyritized plant fragments
					152		0.80	SANDSTONE: - light gray, very fine to fine lamination of organic matter, fine to med grained, subrounded to rounded. In the middle of the unit flaser bedding noted, carby bands pyrite, Marcesite
					153			
					154		2.20	CORE LOSS
154.15	154.15							CORE LOSS
					155			CORE LOSS
								SANDSTONE: - very light gray to light gray, upper part loose friable, harder and compact at the base, med to fine grained, subrounded to rounded, slightly silty, rarely glauconitic.
					156		2.00	SANDSTONE: - same as above.
156.15	156.15							
							0.48	CORE LOSS
					157		0.32	CORE LOSS
157.15	157.15						0.33	
					158			
158.20	158.20						1.32	
					159			
					160			

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DRILL-HOLE NO

UAK-15

CORE RECOVERY				WATER LOSS	DEPTH METRES	STRATIGRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
160.25					161		0.20 0.12	SILTSTONE-Med dark gray to brownish gray Lamination of fine sand, Burrows filled with fine to med gr sand, sidrite nodules towards bottom.
								SIDRITE NODULE:- Brownish gray
162.10					162		1.73	CORE LOSS
162.10								CORE LOSS
163.30					163		1.05 0.15	SANDSTONE Light gray; sidritic - nodule in upper part, s.s. loose friable fine to med grained,
163.30								CORE LOSS
164.55					164		1.00 0.25 0.20	INTERLAMINATED SILT AND SANDSTONE Siltstone light brownish gray s.s. very light gray to light olive gray, upper part more dense and compact, hard, sidritic, basal part mainly silty containing pyritized organic fragments
					165			SILTSTONE (Rarely clayey), med dark gray coal/organic matter at places
166.35					166		1.60 0.10	CORE LOSS
					167			SANDSTONE :- Rich in organic fragments General color of sand is pinkish gray med grained angular to subangular
								CORE LOSS
168.25					168		1.83	CORE LOSS
					169			
169.40							1.12	CORE LOSS
					170			

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DRILL-HOLE NO UAK-15

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
	170.9				171			
					172			
	172.40						1.50 0.10 0.22	<p>✓ CORE LOSS</p> <p>SANDSTONE: Yellowish gray loose friable Med to fine grained, sorted, sub angular to sub rounded.</p> <p>SILTY SANDSTONE; Rarely clayey, Med dark gray to med gray contains patches of transparent sand, Discontinuous laminae of silt and clay. Carby matter present</p>
	173.80				174		1.10 0.55	<p>CORE LOSS</p>
	175.40				175		0.45 0.60 0.47	<p>CORE LOSS</p> <p>SANDSTONE, SILTY, Rarely clay lamination - at places, coal flakes, fine lamination of coal present, s.s.t medium gray to dark gray, Glauconitic, medium sorting, Pyritic, wavy bedding.</p> <p>CLAYSTONE: silty at places, with fine inter- clation of fine sand uncommon. Dark gray to brownish black. Dense hard and resinous</p>
	176.70				177		0.88 0.35	<p>CARBYSHALE/CLAYSTONE: Brownish black. Rich in organic matter, contains coal flakes and fragments, Resinous, Soft to med hard.</p> <p>CORE LOSS</p>
	178.40				178		0.86 0.45	<p>CARBYSHALE: Brownish black, massive to finely laminated, Rich in organic matter coal flakes and laminae. Pyritic &amp; Resinous.</p> <p>CORE LOSS</p>
	179.00				179		0.60	<p>UNDERCLAY: Med bluish gray, Massive, Rooted, Burrowed, Pyritic.</p> <p>UNDERCLAY: Same as above</p>
					180			

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DRILL-HOLE NO. **UAK-15**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					180		1.05	CLAYSTONE/SILTY: Light bluish gray to light gray Resinous, Rooted rarely, Coaly material present, Hard dense and massive
					181		0.70	CLAYSTONE: Dark gray to med dark gray Med hard, dense, wavy to flexur lamination.
	181.55						0.70	CLAYSTONE: - Grayish black to brownish black massive to finely laminated, pyritic, plant fragments
					182		0.55	CORE LOSS
							0.30	SILTSTONE/SANDY CARBY: Med gray to med-dark gray, contains medium to fine grained Sand Rich in organic matter, slightly pyritic,
	183.00				183		0.70	SILTY CLAYSTONE: - Med light gray, Med hard and compact, more silty at the top.
	183.15						0.15	Slit sided, fine layers of carb matter, poorly coarified, slightly pyritized at places
							0.40	
							0.20	CARBY SHALE: - Dark gray to olive black Top 3 cm coal, grayish black color, Resinous, more clayey towards bottom.
	184.00				184		0.85	COAL: Grayish black to brownish black Layered, Resinous and pyritic.
	185.00				185		0.40	UNDERCLAY: - Light gray, N-7, organic matter Rooted, slit sided, more carby towards bottom, lower contact graded with the coal.
	185.60						0.60	COAL: Same as the coal encountered, at the depth of 183.15. But slightly sandy
	186.00				186		0.40	COAL: Same as above but contains no sandy grains
							0.70	
	186.60						0.50	COAL: Same as above
					187		1.05	CARBONEOUS SANDSTONE: Light brownish gray to light olive gray, Abundant carby-matter, Medium grained, subangular to subrounded, denser toward bottom.
	187.65							DIRTY COAL: Grayish black N-2 Med hard clayey, Resinous,
					188			
								CLAYSTONE: Med light gray N-6 to med gray N-5. Silty at the bottom slit sided, contains coal speck and Resinaceous,
					189			
								SILT CLAYSTONE: - Light gray to med light gray, slightly sandy in upper part clayey towards base, slit sided, burrowed, coarified plant fragments
					190			

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DRILL-HOLE NO. UAK-15

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
190.70	190.70				191		0.15 0.52 0.13 0.12	CLAYSTONE SILTY: Generally med light gray N-6 to light bluish gray 5b 7/1. Hard, compact, slick sided. Burrowed, partially coalified plant fragments organic matter. Increases toward bottom.
					191			DIRTY COAL: Grayish black N2. Lignitic, pyritic, clayey at the top.
					192			COAL: Grayish black N2 to black N-1. Soft, Resinous, Pyritic, Lignite.
					192			COAL: same as above
192.43	192.43				193		1.48	DIRTY COAL: same as dirty coal encountered at 190.05 m depth
					193			UNDERCLAY: Dark gray N3 to med gray N5, upper part (i.e. 10cm) richly carbonaceous. Plant fragments, siderite?
193.75	193.75				194		1.22 0.10	CARBON SHALE: Brownish black 5YR 2/1 to olive black 5Y 2/1. Rich in organic material toward bottom, highly pyritic, Resinous, Coal partings in lower part
					194			SILT CLAYSTONE: Med gray N5, to med light gray N6. massive, sticky
					195		1.40 0.13 0.24 0.07	ALTERNATE SILTSTONE AND CLAYSTONE Light gray N7 to light bluish gray 5b 7/1. Dense hard, compact, concordal fracture,
					196			CLAYSTONE: Med dark gray N-4 to brownish black 5YR 2/1. Minor slickensides, Coal flakes, and partings richly in lower part, flaser lamination.
					196			COAL: Grayish black N2, black N1: Soft to very soft, fissile, rich in pyrite upper and lower part, dirty coal; Lignite to subbituminous very light
196.80	196.80				197		1.21 0.44	CARBON SHALE: Brownish black to grayish black
					197			CLAYSTONE: Lower part silty, Grades into very fine sand stone, intercalations of carbony shale, early material admixed with clay, slick sided graded bedding
					198			CORE LOSS
198.75	198.75				199		1.55	SANDSTONE with fine intercalation of clay stone light brownish gray 5YR 6/1 to pinkish gray at places, finely laminated, fine grained, subrounded to subangular, coaly at places.
199.85	199.85				200		1.10	ALTERNATE SILTSTONE AND SANDSTONE: Siltstone med gray N5, Sst light gray N7, lower part clayey carbony lamination at places carbony matter Resinous, &

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DRILL-HOLE NO. AK-15

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
							0.35	SILTSTONE CLAYEY: Med dark gray N4, Med hard and less compact, Carby flakes,
							0.40	BLACK SHALE/SILTY; Grayish black N2 silty and sandy layers containing resinous Carby material are present. Scattered plant fragments, Pyritic.
					201		0.55	SANDSTONE: Light bluish gray Sb711, very fine grained, well cemented, Rooted, Massive subrounded grains, Coaly specks burrows filled with Carby matter, Silty.
					202			SILTSTONE SANDY, (Rarely clayey) Medium gray N5 to light gray N7, very fine grained well cemented, Boturbation? Coalified leaf fragments in middle of the unit. Siderite.
					203		1.75	
					204			SANDSTONE with alternate bands of siltstone and claystone: Light gray N7 to med gray N5, Fine to v. fine grained burrowed, massive to thinly bedded Pyritized Coaly fragments
							1.80	
					205			CORE LOSS
					206		1.25	
					207		1.50	
					208		1.55	
					209		0.70	
					210			

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DRILL-HOLE NO **UNK-15**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					211			SANDSTONE: Thin bedded to finely laminated, Med gray NS to Light brownish gray. 5YR 6/1 Fine laminae of silt and clay. Rarely wavy lamination, Fine to very fine grained
					212		2.39	CLAYSTONE/SILTY Brownish gray, massive Dense, hard, sticky, rarely coal specks. Conchoidal fracture, Sandy in lower part of the unit.
					213		1.32 2.18	CORE LOSS
213.55	213.55				214			
					215		1.55	
215.10	215.10				216		1.55	
					217			
216.65	216.65				218		1.50	
					219		1.25	
218.45	218.45				220			

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DRILL-HOLE NO. 4AK-15

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								SANDSTONE: - light gray N-7 to med gray N-5. Fine to v. fine grained, subrounded to rounded, fine laminae of carby material alternating with the sand in vein to flase laminae.
221-20	221-20				221		1.80	SANDSTONE: - s-st with siltstone inter-layers; s-st med light gray N-6 to med gray N-5. siltstone brownish gray SYR 4/1 coaly lamination, black specks
222-25	222-25				222		1.05	SANDSTONE: - med dark gray N-4 to med gray N-5, fine to v. fine grained, sequence coarsening upward, burrowed, sideritic coal lamination
					223		1.43	CLAYSTONE: - med light gray N-7 to med dark gray N-4, middle part of the unit dark gray to grayish black. Middle zone carby shale with leaf fragments and other pyritized plant fragments. Burrowed, rooted, slickensided. coal laminations observed.
224-25	224-25				224		0.57	SILTSTONE: med light gray N-6 to med gray N-5 clayey and sandy at places sticky where clayey, carby specks, rooted.
					225		1.30	CLAYSTONE with 20cm thick coal in the middle of the unit claystone is med gray N-5 to med dark gray N-4, silty at places, generally massive, coal flakes, rooted, burrowed, slickensided, sticky, coal is grayish black N-2 carby shale above and below coal, coal is highly resinous. dull to subvitrified.
					226			
					227		1.23	CARBON SHALE: Brownish black SYR 2/1 to olive black SYR 2/1, at places, wavy to flaser lamination, plant fragments slickensided, coal flakes and specks pyritic, resinous.
227-25	227-25				228		0.57	ALTERNATE SILT & CLAYSTONE: - Light gray N-7 to med light gray N-6, sticky and shows slickensides, where clayey. Concoidal fracture, coal specks observed. Pyritic.
					229		1.95	
	229-20				230			
TOTAL DEPTH: 229.20 meters								

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




Lithologic Log  
for  
Drill Hole  
UAK-16

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DRILL-HOLE NO

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




CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
00					1			ALLUVIAL CLAY, Silty, Pale yellowish brown 10YR 6/2, Micaceous, Abundant muscovite flakes. Few brown and green biotite flakes
02	02				2			02 ALLUVIAL CLAY, Silty, same as above,
					3			
04	04				4			04 ALLUVIAL CLAY, Silty, same as above,
					5			
06	06				6			06 ALLUVIAL CLAY, Silty, same as above
					7			
08	08				8			08 ALLUVIAL CLAY, Pale yellowish brown 10YR 6/2, Micaceous.
					9			
	10				10			10
					1			
					2			

NON CORING

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DRILL-HOLE NO UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
10					1			ALLUVIAL SAND, light olive gray, 5Y 6/1, Fine to medium, dominantly fine grained. Subangular to subrounded grains. Mostly quartz grains. About 10% dark mineral grains (dark green, green and black). Micaceous, Muscovite flakes. Few green and brown biotite flakes.
	12				2			12
12					3			ALLUVIAL SAND, Same as above,
	14				4			14
14		NON CORING			5			ALLUVIAL SAND, Same as above,
	16				6			16
16					7			ALLUVIAL SAND, Same as above,
	18				8			18
18					9			ALLUVIAL SAND, light olive gray, 5Y 6/1, Fine to medium, dominantly fine grained. Subangular to subrounded. Mostly quartz grains. About 15% dark mineral grains. Micaceous, Muscovite flakes, few green and brown biotite flakes.
	20				0			20
					1			
					2			

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DRILL-HOLE NO. **WAK-16**

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







DRILL-HOLE NO. **UAK-16**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
30					1	ww		ALLUVIAL SAND Same as above,
32	32				2			32
					3	ww		ALLUVIAL SAND, Same as above,
34	34				4			34
		NON CORING			5	ww		ALLUVIAL SAND, Light olive gray, 5Y6/1, slightly clayey, Rest same as above.
36	36				6			36
					7	ww		ALLUVIAL SAND, Light gray N7, to light olive gray 5Y6/1, Fine to medium dominantly fine grained, Subangular to subrounded. Mostly quartz grains About 16% green and black grains. Mucaceous, contains muscovite and green and brown biotite flakes.
38	38				8			38
					9	ww		ALLUVIAL SAND, Same as above.
	40				0			40
					1			370
					2			



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DRILL-HOLE NO UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
40					1			ALLUVIAL SAND, Same as above,
42	42				2			42
					3			ALLUVIAL SAND, light gray N7, to med. light gray N6, fine to medium grained. Few coarse grains. Subangular to subrounded. Dominantly quartz grains Comparatively clean sand. About 15% green, dark green and black grains. Few muscovite and biotite flakes. Few ill preserved forams and few lithic fragments
44	44				4			44
		NON CORING			5			GRAVEL limestone gravel, sand grains few forams
46	46				6			116
					7			GRAVEL
48	48				8			48
					9			CLAYSTONE, Dark yellowish orange, 10YR 4/6, to dusky brown 5YR 2 1/2, to dark yellowish brown 10YR 4 1/2.
	50				0			50
					1			
					2			

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DRILL-HOLE NO UAK-1616

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
50								SILTSTONE Clayey, brownish black 5YR 2/1, Carby and coaly streaks at few places. Scattered carby fragments. Rooted. Roots and carby fragments replaced by pyrite at few places. Few resin globules. Small sideritic nodules. Grades into clay stone. 50.70
		305			1		0.95	CLAYSTONE, Olive gray 5Y 4/1, Dark greenish gray 5GY 4/1, Sparsely rooted. Contains scattered carby fragments. Few roots and carby fragments replaced by fine grained pyrite. Abundant large sideritic nodules. Few resin globules. Slickensided, grades into siltstone 51.65
	53.05				2		1.00	
53.05					3		0.50	SILTSTONE-SANDSTONE INTERLAMINATED Olive gray 5Y 4/1, to light gray N7, Fine grained sandstone laminar streaks. Few clayey bands. Few resin globules. Few thin burrows filled with fine sand. Sandstone rippled at places. Rooted near bottom. Contains rare carby streaks. Grades into clay stone 52.65
		3.00			4			SHALE Brownish black 5YR 2/1, Few fine sandstone streaks. Rooted. Roots replaced by very fine grained pyrite. 53.05
					5		3.00	SHALE Brownish gray 5YR 4/1, to brownish black 5YR 2/1. Silty. Rooted. Roots replaced by very fine grained pyrite. Abundant sideritic lenses. Few fine sandstone streaks at places. Scattered carby fragments at few places. 54.05
56.05	56.05				6			SHALE Brownish gray 5YR 4/1, to brownish black 5YR 2/1, Silty. Carby and coaly bands at many places along with fine grained sandstone laminar. Sideritic streaks and laminae common. Carby and coaly bands contain few resin globules. 57.00
		3.05			7		3.05	SANDSTONE, Light gray N7, to olive black 5Y 2/1, Muddy, Fine to med. grained. Subangular to subrounded quartz grains. May be highly burrowed claystone with large burrows filled with sand. Very sparsely rooted with roots replaced by fine grained pyrite. Few scattered carby fragments. Slickensided at few places. Grades into claystone. 60.35
59.10	59.10				9		1.25	CLAYSTONE, Light olive gray 5Y 6/1, Rooted. Roots at places replaced by fine grained pyrite. Near top, burrows filled with fine to medium sand 61
		2.05			0		0.65	SANDSTONE, Brownish black 5YR 2/1, to black N1, Muddy Carby, with few coaly streaks. 61.15
					1		0.15	
					2			

DRILL-HOLE NO UAK-16

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DRILL-HOLE NO. **UAK-16**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					1			
71.10					2		2.30	SANDSTONE, Light gray N7, to med. dark gray N4. Fine grained. Subangular to subrounded, mostly quartz grains. Few green grains. Claystone bands and laminae soft and friable. Compact where clayey. Few carby streaks. Few coaly streaks at places.
					3			73.40
	74.10				4		0.70	SILTSTONE, Medium light gray N6. Abundant disseminated carby fragments. Sandy.
74.10							0.91	CORE LOSS
	75.20				5		0.19	CLAYSTONE, Dark greenish gray 5GY 4/1, to med dark gray N4. Few fine sand laminae. Few coaly, carby fragments.
75.20					6		1.31	CLAYSTONE, Olive gray 5Y 4/1, to pale yellowish brown 10YR 6/2. Claystone with few fine grained sand bands in the upper half. Few carby laminae and streaks. Scattered carby fragments at few places. Few fine sandstone laminae
	76.51				7		0.84	CLAYSTONE, Olive gray 5Y 4/1, to pale yellowish brown 10YR 6/2. Two hard fine sandstone bands near top. Claystone slickensided at places. Few carby laminae with scattered carby fragments. Few fine sand laminae.
77.35					8		2.20	CLAYSTONE, Olive gray 5Y 4/1, to pale yellowish brown 10YR 6/2. Few very fine to fine sand laminae. Becomes silty downward. Grades into fine grained sandstone
	80.35				9		0.80	SANDSTONE, Dark greenish gray 5G 4/1, Fine grained, Subangular to subrounded, mostly quartz grains. About 20% dark green probably glauconite grains. Slightly clayey
					10			80.35

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DRILL-HOLE NO

UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
80.35					1		1.50	SANDSTONE, 80.35 Clayey. Dark greenish gray SG 4/1, Fine grained subangular to subrounded mostly quartz grains. About 20% dark green probably glauconitic grains, Grades into claystone.
		3.00			2		1.50	CLAYSTONE, 81.85 Sandy. Dark greenish gray SG 4/1, Thin bands and lenses of fine grained glauconitic sand.
83.35	83.35				3			
		2.70			4		2.70	CLAYSTONE, 83.35 Med. dark gray N4 to greenish gray SG 6/1, with lenses and bands of fine sand.
					5			
					6			
86.40	86.40				6		0.35	CORE LOSS 86.05 86.40
		3.05			7		3.05	CLAYSTONE, light olive gray SY 6/1, Dark greenish gray SY 4/1, and olive gray SY 4/1, Few shell fragments. Silty in the middle. Concentration of shell fragments at few places. Shickensided at few places in the upper half.
					8			
					9			
89.45	89.45				0		1.40	CLAYSTONE, 89.45 light olive gray SY 6/1, Olive gray SY 4/1, Fine sand lenses and laminae. Concentration of minute shell fragments at few places. Shickensided at few places in the lower half. Sharp contact with lower limestone. Few scattered shell fragments.
		1.70			1		0.30	LIMESTONE SILTY, light bluish gray SB 7/1, Hard, compact, Scattered shell fragments. Fossiliferous, Heavy. Contains about 10% dark grains 90.85 91.15

LAKHRA

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DRILL-HOLE NO UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
91.15		1.35			1			
92.50	92.50				2		0.60	LIMESTONE, Silty, light bluish gray SB 7/1, Fossiliferous, contains abundant fossil fragments and about 10% dark mineral grains. Lower half clayey. 91.15
					3		0.75	LIMESTONE, White N9, to very light gray N8, Fossiliferous, Contains fossil fragments. Disseminated dark mineral grains at few places. Few patches of fine grained pyrite. Clayey near top. 91.75
		3.05			4		3.05	LIMESTONE White N9 to very light gray N8, Silty and clayey. Few scattered fossil fragments. Rare patches of pyrite. Clayey near base. 92.50
95.55	95.55				5			
					6		0.85	CORE LOSS 95.55
					7		0.10	CLAYSTONE, Dark greenish gray SG 4/1, Silty, contains abundant fossil fragments. Grades into clayey, silty limestone. 96.40
		2.20			8		0.40	LIMESTONE, Clayey, silty, highly fossiliferous, hard, compact. Very light gray N8 to med. light gray N6. Abundant fossil fragments. Grades into claystone. 96.50
					9		1.70	CLAYSTONE, Olive gray SY 4/1, Near bottom dark greenish gray SG 4/1, to black. Fossiliferous near top. Lower about 50 cm highly fossiliferous. 98.60
98.60	98.60				10		0.20	CLAYSTONE, Med. dark gray N4, Dark gray N3, Highly fossiliferous. Abundant fossil fragments and forams. 98.80
		1.50			11		1.30	LIMESTONE, light bluish gray SB 7/1, light olive gray SY 6/1. Clayey in silty in the upper half. Less clayey and silty toward bottom. Full of fossil fragments and forams. 100.10
100.30	100.30				12		0.20	CORE LOSS 100.30

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DRILL-HOLE NO

UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								100.30
100.30							0.20	LIMESTONE Same as above 100.50
					1		0.35	LIMESTONE Silty, clayey, light olive gray 5Y6/1, Contains shell fragments 100.85
							1.40	CLAYSTONE Med dark gray N4, Olive gray 5Y4/1, Highly fossiliferous in the upper 36 cms with abundant shell fragments and forams Grades into silty, clayey limestone 102.25
					2		0.95	LIMESTONE Light bluish gray, 5B7/1, to light olive gray 5Y6/1, Silty, Clayey, Fossiliferous. Contains shell fragments. 103.20
					3			CLAYSTONE, Med dark gray N4, Highly fossiliferous with abundant shell fragments and forams
103.35	102.25						0.15	103.35
					4			CLAYSTONE, Med. dark gray N4, olive gray 5Y4/1, Highly fossiliferous bands with abundant fossil fragments and forams Burrows filled with forams and shell fragments. 106.40
		3.05					3.05	
					5			CLAYSTONE, Med. gray N5 to med. dark gray N4, Few shell fragments sparsely distributed.
					6			107.49
106.40	106.40							CORE LOSS 107.55
					7		0.80	LIMESTONE, Dark greenish gray, 5Y4/1, to light bluish gray 5B7/1, Fossiliferous, abundant forams and fossil fragments. Few green glauconite grains Silty, Clayey 107.65
107.65	107.65						0.10	
					8		0.95	LIMESTONE, Light bluish gray 5B7/1, Fossiliferous, abundant forams and fossil fragments. Glauconite grains at places. Silty, Clayey. Grades into claystone 108.60
		3.05			9			CLAYSTONE, Med. gray N5 to med. dark gray N4, Rare fossil fragments. Small patches of fine grained pyrite at two or three places.
					0		2.10	
								110.70

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DRILL-HOLE NO. **UAK-16**

LAKHRA

BARA

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					1		115	LIMESTONE, light bluish gray 5B7/1, Fossiliferous, abundant forams and fossil fragments. About 10% dark mineral grains clayey and silty near top and bottom. Grades into claystone. 120.15
		3.05			2		1.55	SHALE, olive gray, 5Y4/1, Dark gray N3, Burrowed Burrows filled with fossil fragments and sand. Few sideritic lenses. Fine sandstone laminae and streaks. Few scattered fossil fragments. Lower about 15 cms sandy. 121.30
122.85	122.85				3		0.70	SANDSTONE, light bluish gray 5B7/1, light gray N7, Clayey. Medium to coarse grained. Mostly subrounded quartz grains. About 10% dark grains. Few glauconite grains. 122.85
		1.90			4		0.50	SHALE, Dark gray N3, Fine sandstone streaks and laminae. Burrows filled with medium to coarse sand and glauconite grains. Few scattered shell fragments. 122.95
					5		0.80	SANDSTONE, light bluish gray 5B7/1, Fine to coarse grained. Mostly quartz grains. Finer grains subangular, coarser grains subrounded. About 10% glauconite grains. Fossiliferous. Abundant fossil fragments. Clayey. About 10 cms in the middle hard and compact. 123.05
125.70	125.70				6		1.15	SILTSTONE, Clayey, Dark gray N3 with claystone bands. Few fossil fragments. 123.93
							0.95	CORE LOSS 124.75
		2.55			7		1.60	SANDSTONE, With shale bands. Dark greenish gray 5GY4/1 Fine grained, silty. Sand lenses and burrows filled with fine sand and glauconite grains. Few scattered fossil fragments. Grades into siltstone. 125.70
					8		0.15	INTERBEDDED SILTSTONE - SHALE, Med. light gray N6, Med. dark gray N4. Massive with shaly bands and laminae. Concentration of shell fragments near top. 126.85
128.90	128.90				9		0.85	CORE LOSS 128.95
		2.95					0.85	CLAYSTONE, silty, Med. light gray N6, Med. dark gray N4, with siltstone bands and laminae. Concentration of fossil fragments at one place near top. 128.90
					0		1.90	SANDSTONE, Muddy, Med. light gray N6 to Med. dark gray N4. Fine to coarse grained. Dominantly quartz grains. Fine grains subangular, larger grains subrounded. About 10% glauconite, shaley bands and laminae. Fossiliferous. Scattered fossil fragments. 127.55
					1			130.45

2.79

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DRILL-HOLE NO

UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
131.90	131.90				1		1.40	SILTSTONE, SHALE INTERLAMINATED Med light gray N6 to med dark gray N4. Few scattered shell fragments. Few hard siltstone bands in the upper half. Lower half more shaley. Few sideritic lenses
							0.05	CORE LOSS
131.90	131.90				2		1.85	CLAYSTONE, Grayish black N2 to brownish black 5YR 2/1. Massive compact. Fossil fragments and sideritic nodules at few places. Few very fine sand streaks. Grades into calcareous glauconitic sandstone
		3.05			3		1.70	SANDSTONE Calcareous, glauconitic, fossiliferous. Abundant fossil fragments and forams. About 10% glauconitic grains. Light bluish gray 5B 7/1 to dark greenish gray 5G 4/1. Hard and compact in the upper half. Gradually becomes comparatively friable and clayey near bottom
134.75	134.75				5		1.30	SANDSTONE, Dark greenish gray 5G 4/1. Clayey, glauconitic, fossiliferous. Fine to med. grained. Few coarse grains. Larger grains subrounded. Smaller grains subangular. About 20% glauconitic grains. Fossil fragments abundant. Comparatively friable
		3.05			6		1.75	SHALE Dark gray N3 to grayish black N2 with fine sandstone streaks and laminae. Carbonyl iron streaks and laminae in the upper part. Near top, burrows filled with glauconitic. Few patches of fine grained pyrite at few places
138	138				8		2.30	SHALE, With fine sandstone streaks and laminae. Brownish black 5YR 2/1 to grayish black N2. Fine, subangular quartz grains and few glauconitic grains in laminae. Few sideritic lenses. Very few carbonyl iron streaks
		3.00			9			
					0			
					1			

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140.30

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DRILL-HOLE NO. UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
							0.30	COAL DIRTY 140.30
							0.40	CLAYSTONE, 140.40
141	141				1		0.35	Med dark gray N4, to dark gray N3. Coaly and earthy streaks near top. Few patches of fine grained pyrite. Few pyritized plant impressions. Few burrows with fine grained pyrite. 141
		2.40			2			CLAYSTONE, Olive gray 5Y4/1. Contains few very fine sand streaks. Few patches of fine grained pyrite. Grades into clayey muddy sand. 141.35
					3		2.05	SANDSTONE Muddy, Grayish black N2 in the upper half. Dark greenish gray 5G4/1 in the lower half. Fine to medium grained. Mostly fine grained quartz. Subangular to subrounded. About 10% dark mostly glauconitic grains. Few sideritic lenses. Lower half less muddy more glauconitic. 143.40
							0.65	CORE LOSS
144.05	144.05				4			
		2.90			5		2.90	SANDSTONE, Dark greenish gray 5G4/1. Olive gray 5Y4/1. Muddy fossiliferous, glauconitic. Abundant forams and fossil fragments. Fine to medium grained. Dominantly fine grained. Few coarse grains. Mostly quartz grains. About 10% glauconitic grains. Few sideritic lenses. More muddy and clayey toward base with clay bands and laminae. 146.75
					6			CORE LOSS
							0.15	
147.10	147.10				7		0.45	SANDSTONE, Muddy, glauconitic. Fine to medium grained. Dominantly fine grained. Few coarse grains. Subangular to subrounded mostly quartz grains. About 10% glauconitic grains. Grades into claystone. One hard fossiliferous band near bottom. 147.55
		3.05			8		0.30	SHALE, Sandy, dark greenish gray 5G4/1 to grayish black N2. Fine glauconitic sandstone laminae and streaks. Soft, sandy. 147.85
					9		2.30	SHALE, Olive gray 5Y4/1. Med gray N5. Compact. Fine sandstone streaks. Abundant sideritic lenses and bands. Few soft, sandy, glauconitic and fossiliferous bands with fine to medium quartz sand, glauconitic grains and abundant forams and shell fragments.
	150.15				0			
					1			

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DRILL-HOLE NO **UNK-16**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
150.15								SHALE, 150.15
		2.90			1		2.90	Olive gray 5Y 4/1, Med gray N5. Compact. Fine sandstone streaks. Abundant sideritic lenses and bands. Sandstone streaks contain glauconitic grains along with fine grained quartz. Sandy near bottom. 15305
					2			CORE LOSS
					3			
153.20	153.20						0.15	SHALE, 153.20
153.20					4		1.10	Olive black 5Y 2/1, Grayish black N2. Sandstone streaks and laminae. Fine subangular quartz grains. Few sideritic nodules. Few burrows filled with fine to med. subangular quartz grains. Compact in the upper half, gradually becomes more sandy, soft and compressively friable toward bottom. 154.30
		1.10			5		1.27	CORE LOSS 155.57
155.57	155.57						1.35	SANDSTONE
155.57					6		0.65	Grayish black N2, Muddy, soft, friable. Fine to medium grained. Dominantly fine grained. Few coarse grains. Mostly quartz grains. Poorly sorted. Grades into claystone. 155.92
		1.40			7		0.40	SHALE, 156.57
								Med dark gray N4. Fine sandstone streaks and laminae. Burrows filled with fine to coarse quartz grains. Grades into sandstone.
					8		1.65	SANDSTONE, 156.97
								Fine grained, Dominantly quartz grains. Upper half friable, muddy, lower half hard and compact with sideritic band.
					9		1.25	CORE LOSS 158.62
158.62	158.62							159.87
		1.80			10		1.05	SANDSTONE, 160.92
					11			Muddy, Medium gray N5 to dark gray N3. Fine to medium grained. Dominantly fine grained. Few coarse grains. Subangular to subrounded. Mostly quartz grains. Few clay streaks. Shale laminae and bands increase toward bottom. Grades into shale.

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DRILL-HOLE NO. **4AK-16**

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DRILL-HOLE NO. UNK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					1			
177.45					2		0.50	SANDSTONE. Muddy, Med gray N5, Dark gray N3. Dark shale bands and streaks. Fine to medium grained. Dominantly fine grained. Few coarse grains. About 75% quartz grains. Disseminated pyrite at few places. Few early streaks. Few sideritic bands. Grades into sandy shale.
	1.60				3		1.10	SHALE. With fine grained sandstone streaks and laminae. Few early streaks. Sideritic band at bottom. Dark gray N3.
					4		1.45	CORE LOSS
174.50	174.50				5		0.25	SHALE, Dark gray N3, Olive gray 5Y4/1, with fine grained sand streaks and laminae. Sideritic bands.
174.50					6		2.80	CORE LOSS
	0.25				7			
177.55	177.55				8		0.10	SHALE, Olive gray 5Y4/1, with fine grained sandstone streaks and laminae. Few early streaks and laminae.
					9		0.10	SANDSTONE Med light gray, N6, friable. Fine to med. grained. Subangular to subrounded. About 75% quartz grains. Few dark grains.
	0.20				10		2.35	CORE LOSS
180.60	180.60				11			

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DRILL-HOLE NO **WAK-16**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
18060								180.60
					1		0.55	SILTSTONE AND SHALE INTERLAMINATED Med light gray N6 to dark gray N3. Compact. Sideritic lenses. Few carby streaks. Burrows filled with fine sand and pyrite. Rippled
							0.15	181.15
							0.17	181.30
		2.15			2		0.60	COAL CARBY SHALE, Full of carby streaks. Rooted, slickensided. Pyritic Med dark gray N4. Dark gray N3
							0.60	181.47
							0.60	181.55
					3		0.60	SILTSTONE. Med. gray N5. Rooted. Roots pyritic. Many carby streaks Gradually becomes coarser. Grades into Sandstone
							0.70	182.75
18365	18365						0.70	SANDSTONE. With shaley streaks and laminae, muddy. Friable towards bottom. Fine to med grained. Coarser towards bottom Fewer grains subangular, coarser grains subrounded. About 95% quartz grains
18365					4			182.75
								183.65
		NIL			5		1.75	CORE LOSS
18540	18540							185.40
18540					6		1.30	CORE LOSS
		NIL						
18670	18670							186.70
18670					7		0.55	SANDSTONE. Friable. light gray N7. Fine to med, mostly fine grained subangular to subrounded. About 95% quartz grains Few carby and coaly streaks. One sideritic band in the middle.
		0.55					1.00	187.25
					8			CORE LOSS
18825	18825							188.25
18825					9		1.50	CORE LOSS
		NIL						
18975	18975							189.75
18975					10		0.60	SANDSTONE. Friable. light gray N7, with few carby, coaly, and shaley laminae. Fine to medium grained. Subangular to subrounded, about 95% quartz grains.
								190.35

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DRILL-HOLE NO UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		0.60			1		2.30	CORE LOSS 190.35
192.65	192.65				2			
		1.20			3		1.20	SANDSTONE. Light gray N7, Muddy in the upper half. Friable in the lower half. Fine to med. grained. Subangular to subrounded. About 75% quartz grains. Coarse and clayey laminae at few places. More clayey laminae than the upper sandstone. 192.85
					4		1.85	CORE LOSS
					5			
195.70	195.70				6		0.01 0.19	SANDSTONE Fine to med, muddy, Coaly streaks 195.70 COAL 195.71
		3.05			7		0.35	CLAYSTONE. Med light gray N6. Rooted. Stickensided. Few roots and coaly fragments pyritized. At few places roots contain oil. Abundant coaly fragments. Upper 10 cm full of coaly streaks. Lower becomes silty and grades into siltstone. 196.25
					8		2.50	SILTSTONE Med light gray N6, Dark gray N3, Clayey to sandy. Rooted near top. Clayey laminae and streaks. Few sideritic nodules and few coaly streaks. Sandy at places, rippled. Few patches of fine grained pyrite. Few sideritic nodules near bottom. 198.75
198.75	198.75				9		0.85	CLAYSTONE SILTY More silty near top. Siltstone streaks Med gray N5. Brownish black SYR 2/1. Few sideritic nodules. Coaly and clayey laminae near bottom. Stale near base. 199.60
		3.05			10		0.30	COAL SAMPLED UAK-16-1 199.90
					11		1.90	CLAYSTONE, SHALEY Olive black SYR 2/1. Grayish black N2, Silty, abundant micro silty streaks. Sparsely rooted. Few coaly streaks. Abundant coaly streaks and coaly fragments near top. Few coaly fragments pyritized. 201.80
201.80	201.80							



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DRILL-HOLE NO

UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					1			
20180					2		1.78	CLAYSTONE, Olive gray 5Y 4/1, Silty. Few burrows filled with very fine sand. Few carb. laminae. Grades into fine grained sand stone.
		3.05			3		2.27	SANDSTONE-SHALE INTERLAMINATED Med. light gray N6, to med. dark gray N4. Shale laminae and streaks. Fine grained. Subangular. More than 80% quartz grains. Rest dark mineral grains. Few carb. streaks. Few hard bands probably sideritic.
20485	20485				5			SANDSTONE-SHALE INTERLAMINATED Same as above.
		2.82			6		2.82	
					7			
20790	20790				8		10.23	CORE LOSS
		1.73			9		1.73	SANDSTONE, Light gray N7, Med. light gray N6, with shale streaks. Few carb. streaks. Fine grained, well sorted, about 80% subangular quartz grains. Rest dark mineral grains. Few hard probably sideritic bands. Few carb. streaks.
					0		1.32	CORE LOSS
	21095				1			
					2			

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DRILL-HOLE NO

UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
210.75					1		0.30	SANDSTONE, Same as above, 210.95
					2		0.35	SHALE, Brownish gray SYR 4/1. Few coaly and carby bands. Sandstone laminae. Becomes sandy near bottom. 211.25
		0.65						CORE LOSS 211.60
					3		2.40	
214	214				4		1.38	SANDSTONE-SHALE INTERLAMINATED. light gray N7, dark gray N3, sandstone fine grained well sorted. About 85% subangular quartz grains. Rest dark grains. Few coaly and carby streaks. Few hard, heavy, probably sideritic bands. Rippled. 215.38
		1.38			5			CORE LOSS
					6		1.67	
217.05	217.05				7		1.53	SANDSTONE-SHALE INTERLAMINATED Same as above 217.05
		1.53			8			
218.83	218.83				9		0.25	CORE LOSS 218.58
218.83		1.27					1.27	SANDSTONE-SHALE INTERLAMINATED Same as above. 218.83
	220.10				0			
					1			
					2			

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DRILL-HOLE NO

UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
220.10							0-65	CORE LOSS
							0-75	SANDSTONE SHALE INTERLAMINATED Light gray N7, dark gray N3. Sandstone fine grained, well sorted. About 85% subangular quartz grains Rest dark gray. Few coaly and carby streaks. Rippled. Few hard sideritic bands. Few carby and coaly laminae near base.
	2.40				1		0-15	DIRTY COAL Light, highly burrowed burrows filled with fine to coarse quartz sand. Resin globules. Few patches of very fine grained pyrite.
					2		0-35	COAL, SAMPLED UAK-16-2
					3		1-15	CLAYSTONE, light bluish gray 5B7/1, Rooted, roots coalified or pyritized. Scattered carby fragments. Coaly, carby laminae near top. Near bottom scattered white grains.
223.15							1-60	CLAYSTONE, Silty, light bluish gray, 5B7/1, Rooted near top. Few scattered carby fragments. More silty near bottom. Fine sand streaks near bottom. Massive.
223.15					4		1-40	SHALE-SILTSTONE INTERBEDDED Med dark gray N4 to olive gray 5Y4/1, Abundant lenses and streaks of fine pale yellowish brown 10YR 6/2 material. Few hard sideritic nodules. Few scattered carby fragments. Sandy in the middle.
	3.00				5		1-70	SHALE AND SANDSTONE INTERBEDDED Med. light gray N6 to med. dark gray N4. Sandstone very fine grained. Mostly subangular quartz grains. Few coaly and carby streaks. Lower 20 cms hard and compact sand.
226.15					6		1-10	SILTSTONE-SHALE INTERBEDDED Med. light gray N6 to dark gray N3. Sandy at places. Scattered carby fragments. Few sandy, sideritic, hard bands.
226.15	0.70						0-35	CLAYSTONE, Light bluish gray 5B7/1, Massive, shaly near top and bottom.
226.85					7		0-65	SILTSTONE-SHALE INTERBEDDED Med. light gray N6 to dark gray N3. Sandy at few places. Few carby streaks. Scattered carby fragments.
	2.10				8		0-20	CORE LOSS
229.15					9		0-08	SANDSTONE-SHALE INTERBEDDED Sandstone fine to medium, subangular to subrounded, mostly quartz grains. Coaly, carby streaks and laminae, more near bottom.
229.15							0-12	DIRTY COAL Black N1, with fine grained sandstone streaks. Few resin globules. Few plant impressions. One pyrite patch.
					0		0-30	COAL, SAMPLED, UAK-16-3
					1			CARBONACEOUS SHALE, Black N1, Brownish black 5YR 2/1, with coaly streaks. Few resin globules. Stickensided.
					2			

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DRILL-HOLE NO

UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
								CLAYSTONE, Med. dark gray N4 to light bluish gray SB7/1, Massive Scattered carby fragments. 230.72
					1		0.18	DIRTY COAL Black N1, slightly heavier than coal, shaley bands and streaks. Few resin globules. 230.90
232.20	232.20				2		1.30	CLAYSTONE Med. dark gray N4 to light bluish gray SB7/1, Massive, scattered carby fragments. More carby near top. Slickensided at few places. Gradually becomes silty toward base. Scattered rounded, white, medium size grains at few places. 232.20
		3.05			3		1.60	CLAYSTONE, Light bluish gray SB7/1, silty near top, Massive, Scattered carby fragments. Few coalified roots. Scattered, white, rounded, fine to medium size grains at few places. 233.80
					4		0.15	COAL Black N1, brownish black SYR 2/1, Few shale streaks, Few patches of fine grained pyrite. Slickensided at few places. 233.95
					5		1.30	SILTSTONE, Dark gray N3, Scattered carby fragments. Few patches of fine grained pyrite at few places. Few coaly streaks Very sparsely rooted. 235.25
235.25	235.25						0.27	SILTSTONE. Same as above. Grades into shale 235.52
					6		0.73	SHALE, Grayish black N2, with sandstone streaks. Sandstone fine to medium grained. Subangular to subrounded quartz grains Few carby streaks and carby fragments. Few siderite nodules. Grades into claystone. 236.25
		3.00			7		0.85	CLAYSTONE, Light bluish gray SB7/1, Scattered carby fragments Rooted. Slickensided, Few roots pyritized. Silty toward bottom. Scattered rounded white, fine to medium grains at few places. 237.10
							0.25	SILTSTONE, Light gray N7, hard, Scattered carby fragments. 237.35
					8		0.50	SILTSTONE SANDY, Med. gray N5 to light bluish gray SB7/1, Scattered carby fragments. Comparatively soft. Abundant coaly streaks One about 7 cm thick hard band at bottom. 237.85
238.25	238.25						0.35	CLAYSTONE, Light bluish gray SB7/1, Massive, Scattered carby fragments. 238.20
					9		0.40	COAL Sampled UAK-16-4, 238.20 - 238.70, 0.50 238.70
							1.65	SHALE Black N1, Brownish black SYR 2/1, Carby and coaly streaks and fragments, more near top. Plant impressions, few pyritized. Sparsely rooted. Grades into siltstone. 239.10
					0			SILTSTONE, Black N1, Grayish black N2, Carby, coaly fragments. Sandy at places. Fine grained sandstone streaks. Coarsening downward. 240.75
					1		0.45	DIRTY COAL Highly burrowed in the upper half. Burrows filled with silt. Slightly heavy near bottom. Few resin streaks Few plant impressions, some pyritized. 241.20
241.25	241.25				2		0.09	SANDSTONE, Med. light gray N6. Fine to coarse grained. Fine grains subangular, coarser grains subrounded. All quartz grains Hard, shaley streaks. Coaly, Carby laminae near top. 241.25

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DRILL-HOLE NO

UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					1			
241.28					2		0.01	SANDSTONE, Hard, fine to coarse grained. Fine grains subangular, coarse grains subrounded, All quartz grains. 241.29
		1.00					2.05	CORE LOSS
					3			243.34
					4		0.96	CLAYSTONE, Light bluish gray, SB7/1, Scattered carby fragments, few pyritized. Sparsely rooted. Scattered, rounded, fine to medium size, white grains at few places. Stickensided at few places. Massive
244.30	244.5				5			244.30
					6		3.05	CLAYSTONE, Light bluish gray SB7/1, Same as above.
		3.05			7			
247.36	247.3				8		2.50	SILTSTONE, With shale streaks and bands. Dark gray N3 to med light gray N6 rooted. Stickensided. Many roots with clay. (light bluish gray, as above) Few roots pyritized. Scattered carby fragments. Few coaly and carby streaks. 247.85
		1.70			9		1.20	SANDSTONE, With shale streaks and bands. Few coaly and carby streaks. Sandstone fine grained. Mostly subangular quartz grains. Med light gray N6. Med. dark gray N4. One 5 cm thick hard sandstone band at bottom 249.05
					0		1.25	CORE LOSS
	250.40				1			250.40
					2			

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DRILL-HOLE NO

UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
25240								CORE LOSS
					1		20.5	
		1.00			2			
					3		1.00	SANDSTONE, Med. gray NS, very light gray N8. Fine to medium grained. Subangular to subrounded. mostly quartz grains. Upper half friable with shale streaks. Lower half hard and compact and slightly calcareous. Carby, carby streaks and fragments rare.
	25345							253.45
25345	25345	0.10			4		0.10	SANDSTONE, Pale yellowish brown 10YR 6/2, Hard, compact. Carby fragments rare. Fine to med. Subangular to subrounded grains. Mostly quartz grains. Slightly calcareous. About 20% milky white grains
25345								253.55
		1.00			5		1.00	CORE LOSS
					6			SANDSTONE, Pale yellowish brown 10YR 6/2, Hard and compact in the upper half. Alternate hard and friable bands in the lower half. Fine to med. Subangular to subrounded mostly quartz grains. About 15% milky white grains carby fragments, streaks rare. One band of comly, carby streaks near bottom
	25450						1.90	254.60
25450							0.20	CORE LOSS
		0.20			7			SANDSTONE, Soft, friable. Fine to med. Subangular to subrounded mostly quartz grains. About 10% milky white grains Pale yellowish brown 10YR 6/2.
					8			CORE LOSS
					9		2.85	
	25955							259.55
25955					0		0.55	CLAYSTONE, Light bluish gray 5B 7/1, slickensided, rootbed. Few roots pyritized, few coalified. Few carby fragments. Gradually becomes silty toward base. Scattered, rounded, white, fine to med. grains at few places
					1			260.10

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UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
							0.35	SILTSTONE, With shale streaks and bands. Very light gray N8, Med light gray N6. Burrowed near top. Rooted. Few carby fragments
		3.00					7.85	SANDSTONE, With shale bands and silty shale streaks. Very light gray N8 to med light gray N6. Carby fragments rare. Fine to very fine grained. Mostly subangular quartz grains. Grains size gradually increases.
26253	26255						9.10	SILTSTONE, With shale bands and streaks. Light gray N7 Med dark gray N4. Few fine sandstone streaks Scattered coaly, carby thin streaks.
		0.16					9.55	SANDSTONE, With silty shale bands and streaks. Light gray N7, medium dark gray N4. Rippled. Fine carby and coaly streaks. Fine grained. Dominantly subangular quartz grains. About 5% dark grain friable near bottom
26484	26484						10.16	SANDSTONE, Fine grained. Mostly subangular quartz grains. Few shaly streaks in the upper friable part. Carby fragments rare. Lower about 13cm hard compact.
26560	26560						10.55	CORE LOSS
		0.20					10.75	CLAYSTONE Light bluish gray SBT/I. With very coarse rounded quartz grains. Lenses of fine to med Subangular to Subrounded quartz grains. Few fragments of hard fine to med grained sandstone with claystone pieces
		0.35					11.10	CORE LOSS
							11.45	SANDSTONE, Hard. Fine to med grained with light bluish gray Claystone pieces. Few coarse quartz grain
26865	26865						12.70	CORE LOSS
		0.60					13.30	SANDSTONE, Light gray N7, Medium gray NS. Fine to med. mostly subangular quartz grains. About 5% milky white grains.
							13.90	CORE LOSS
27165	27165						14.50	

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DRILL-HOLE NO

UAK-116

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
27165								
		0.40			2		0.40	SANDSTONE, Very light gray N8, Med gray N5 with few silty shale streaks. Mostly fine, subangular quartz grains. Few carby streaks. About 5% milky white grains.
	273						0.95	CORE LOSS
273					3		0.50	SANDSTONE, Light gray N7, Hard, fine grained, Dominantly quartz grains. About 5% white grains. Few dark grains. Few carby streaks. Bottom 5 cm coarse sandstone with coarse subrounded to rounded quartz grains. Makes sharp contact with fine sandstone.
	27470				4		1.20	CORE LOSS
27470					5			CORE LOSS
		NIL			6		3.05	
	277.75				7			
277.75					8		0.73	SHALE - SILTSTONE INTERBEDDED Shale with siltstone bands and streaks. Dark gray. N3. Pale yellowish brown 10YR 6/2. Fine coaly, carby streaks throughout.
		0.93			9		0.20	SANDSTONE, With silty shale streaks. Full of coaly, carby streaks. Sandstone fine to coarse grained. Dominantly fine grained. Poorly sorted. Mostly quartz grains. Light gray N7, Med. dark gray N4.
	280.00				0		2.12	CORE LOSS
					1			
					2			

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DRILL-HOLE NO

UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
28080					1		1.00	SANDSTONE. Light gray N7, Med gray. N5, Sandstone with silty shale streaks, bands. Fine carb. coal streaks throughout. Becomes coarser near bottom with fine to medium and few coarse grains. 28080
		1.00			2			CORE LOSS 28180
					3		2.05	
28385	28385				4		0.08	SANDSTONE, Hard, Pale yellowish brown, 10YR 6/2, Fine to medium grained. Subangular to subrounded, mostly quartz grains. About 10% white grains. 28385
		0.08			5			CORE LOSS 28393
					6		2.97	
28690	28690				7		1.30	SANDSTONE, Light gray N7, Med dark gray N4, with silty shale streaks and bands. Fine grained. Mostly subangular quartz grains. Carb. and coal streaks throughout. Rippled. About 10% very fine dark grains. 28690
		1.30			8			CORE LOSS 28820
					9		1.75	
28975	28975				0		0.63	SANDSTONE Same as above 28975
					1			290.50

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DRILL-HOLE NO

WAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE %	CORE %					
		0.63					2.42	
					1			CORE LOSS
					2			
293	293				3		1.85	CORE LOSS
					4			SHALE, Silty, carby. Full of fine carby streaks. Few carby fragments. Few patches of fine grained pyrite. Sparsely rooted. Sandy near top. Olive black SY 2/1.
		1.20			5		0.63	CARBONACEOUS SHALE, With siltstone streaks, in the upper half and sandstone streaks in the lower half. Fine coaly carby streaks in the upper half. Full of coaly streaks and laminae in the lower half. Black N1 to dark gray N3.
					6		0.57	
296.05	296.05				7		0.50	SHALE - SANDSTONE INTERLAMINATED Shale dark gray N3. Sandstone light gray N7. Sandstone fine grained, mostly subangular quartz grains. Shale silty, full of carby, coaly streaks.
					8		0.75	SHALE, Brownish black SYR 2/1, with sandstone streaks. Sandstone fine to medium grained, subangular to subrounded quartz grains. Shale silty, full of coaly, carby streaks. Contains few siderite lenses.
		1.25			9		1.80	CORE LOSS
					10			SANDSTONE, Light bluish gray SB 7/1. Pale yellowish brown 10YR 6/2. Fine to medium, subangular to subrounded quartz grains. Upper light bluish gray sandstone coarser with fine to med. and few coarse grains. Lower part comparatively hard and fine grained. Carby fragments rare.
299.10	299.10				11		0.37	CORE LOSS
		0.37			12		1.58	
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DRILL-HOLE NO

UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
301.05		0-20			1		0-20	SANDSTONE, light bluish gray 5B7/1, Pale yellowish brown 10YR 6/2. Upper half Pale yellowish brown, hard and fine grained. Lower half light bluish gray, soft and fine to med. grained with few coarse grains. 301.05 301.25
302.15	302.15				2		0.90	CORE LOSS 302.15
302.15		1-45			3		0.05	SANDSTONE, Pale yellowish brown, 10YR 6/2. Fine to coarse quartz grains. Smaller grains subangular, coarser grains subrounded to rounded. Poorly sorted. Few carby fragments. A comparatively thick patch of pyrite with larger well developed crystals. 302.20
					4		0.20	CLAYSTONE, light bluish gray 5B7/1, to brownish gray 5YR 4/1. Carby fragments few pyritized. Few coaly streaks. Few small sideritic lenses. Silty near bottom. Sparsely rooted and slickensided near top. 302.70
305	305				5		1-40	SILTSTONE, Light gray N7, with shaly bands. Scattered, fine, coaly carby streaks throughout. Very sparsely rooted. Few roots coalified and pyritized. Scattered carby fragments. One sideritic nodule near bottom. 303.60
					6		3-05	CORE LOSS 305
		3-05			7			SILTSTONE Light gray N7, Med dark gray N4, with silty shale bands and streaks. Fine coaly, carby streaks throughout. A few places sandy. Fine sandstone streaks in the lower half. 308.05
308.05	308.05				8		1-40	SHALE-SANDSTONE INTERBEDDED Shale brownish gray 5YR 4/1. Bands and streaks of shale silty, with fine coaly, carby streaks. Sandstone light gray N7. Bands and streaks of sandstone. Fine grained. Dominantly subangular quartz grains. Fine coaly carby streaks in sandstone. Few sideritic lenses. More coaly and carby streaks near bottom. 309.45
					9		0-2.5	CORE LOSS 309.70
		2-80			10		0-6.5	CARBONACEOUS SHALE Brownish black 5YR 2/1. Burrowed near top. Burrows filled with medium size quartz grains. Coaly streaks. 309.85
					11		0-0.65	COAL SAMPLED UAK-16-5 310.50
					12		0-0.08	CARBONACEOUS SHALE, Black N1, Coaly streaks near top. Clayey near bottom. Pyritic near top. 310.58
311.10					13		0-52	CLAYSTONE, light bluish gray 5B7/1. Rooted, slickensided. Roots coalified. Carby fragments. Few very fine grained pyrite patches 311.10

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DRILL-HOLE NO

UAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
311.10					1			
			3.05		2		3.05	CLAYSTONE, Light bluish gray SB 7/1, Rooted. Fine grained pyrite in few roots. Few roots coalified. White rounded medium size grains scattered at few places. Stickensided. Silty at few places. Lower 30 cm turns dark gray N3, and shaly and contains coaly and carby streaks. Again grades into claystone at bottom.
					3			
	314.15				4		1.95	CLAYSTONE Light bluish gray SB 7/1. Stickensided, sparsely rooted. White, rounded, med. size grains scattered at few places. Few carby fragments. Slightly silty at few places. Grades into shale.
314.15					5		0.25	SHALE, Brownish gray SYR 4/1, with coaly carby bands and streaks silty at places.
			3.45		6		0.75	SANDSTONE, With shale bands and streaks. Med light gray N6 to Med. dark gray N14. Fine grained. Mostly subangular quartz grains. Shale is silty, contains carby, coaly streaks and fragments. Grades into claystone.
					7		0.10	CLAYSTONE, Light bluish gray, SB 7/1, stickensided, rooted. Few patches of fine grained pyrite. Few carby fragments scattered rounded white grains.
317.20					8		1.90	CLAYSTONE, Light bluish gray SB 7/1, rooted, stickensided. Few patches of fine grained pyrite. Silty at few places. Scattered, white, rounded, medium size grains at few places. Carby fragments rare. One about 5 cm thick sideritic band at the bottom.
			3.05		9		1.15	SHALE With streaks and bands of fine sandstone Brownish gray SYR 4/1, Med. light gray N6. Shale is silty. Sandstone fine grained. Mostly subangular quartz grains. Few coaly, carby streaks distributed throughout.
	320.25				0			
					1			
					2			

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DRILL-HOLE NO

WAK-16

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
32025							2.70	CORE LOSS
					1			
		1.35			2		0.31	CLAYSTONE light bluish gray SB7/1. Grades into fine sandstone
					3			
					4		0.36	SANDSTONE upper half med. light gray N6. Fine grained, mostly subangular quartz grains. friable. lower half, hard, pale yellowish brown 10YR 6/2, med to coarse subrounded quartz grains.
32332	32333				5			CORE LOSS
					6			
		0.36			7			
					8		0.36	SANDSTONE Med light gray N6, Very light gray N8, Fine to medium grained. Subangular to subrounded mostly quartz grains. Few sandy, earthy streaks. About 5% dark grains. About 5% white grains.
32635	32637				9			
					10		1.80	CLAYSTONE light bluish gray, SB7/1, Massive, slickensided. sparsely rooted. Few earthy, earthy fragments scattered, white, rounded, fine to med size grains at few places. Silty at places.
		2.82			11		1.02	SANDSTONE Very light bluish gray, silty, fine grained. Dominantly subangular quartz grains. Earthy fragments rare.
					12			
					13			CORE LOSS
32940	32940				14		0.23	
					15		5.70	SANDSTONE light bluish gray, SB7/1, Fine grained. Mostly subrounded quartz grains. Friable, clayey. Few dark grains.
					16			
					17			
					18			

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B400

DRILL-HOLE NO

UNK-16

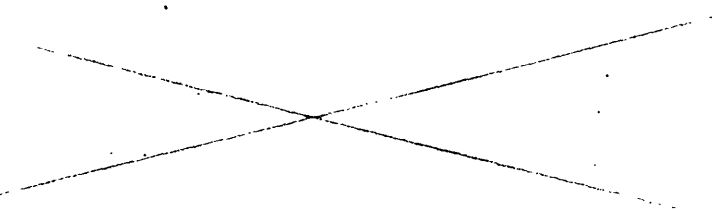
CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
		3.05			1		0.60	SANDSTONE Light gray N7. Med gray N5, hard, fine to med grained. Subangular to subrounded, mostly quartz grains. Quartz grains in white probably siliceous matrix. Carby fragments rare
					2		1.75	CLAYSTONE, Light bluish gray SB 7/1, Rare carby fragments. Sandy in the middle, with white rounded, fine to med grains. Massive
3244.5	3244.5				3		2.35	CLAYSTONE, Light bluish gray SB 7/1, Massive. Sparsely rooted. med subrounded in the upper part. Few roots carby. Gradually becomes silty.
		3.05			4			SILTSTONE, Light bluish gray, SB 7/1, Very sparsely rooted. Massive
					5		3.70	
3351.1	3351.1				6		4.50	SILTSTONE, Light bluish gray, SB 7/1, Massive, Grades into sandstone
		3.05			7		2.55	SANDSTONE, With shale bands and streaks. Shale silty. Dark gray N3. Sandstone fine grained, light gray N7. Dominantly subangular quartz grains. Alternate hard and fresh but. About 5% dark grains. Fine carby fragments very sparsely distributed.
					8			
3385.5	3385.5				9			CORE LOSS
					10		3.05	
		NIL			11			
					12			
		3416.0						

400

3416.00

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DRILL-HOLE NO **UAK-16**

CORE RECOVERY				WATER LOSS	DEPTH METRES	GRAPHIC LOG	THICKNESS	LITHOLOGIC DESCRIPTION
FROM	TO	CORE	CORE %					
					1			
34160					2			
		1112			3		3.05	CORE LOSS
					4			
34465					5			344.65 THE END
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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