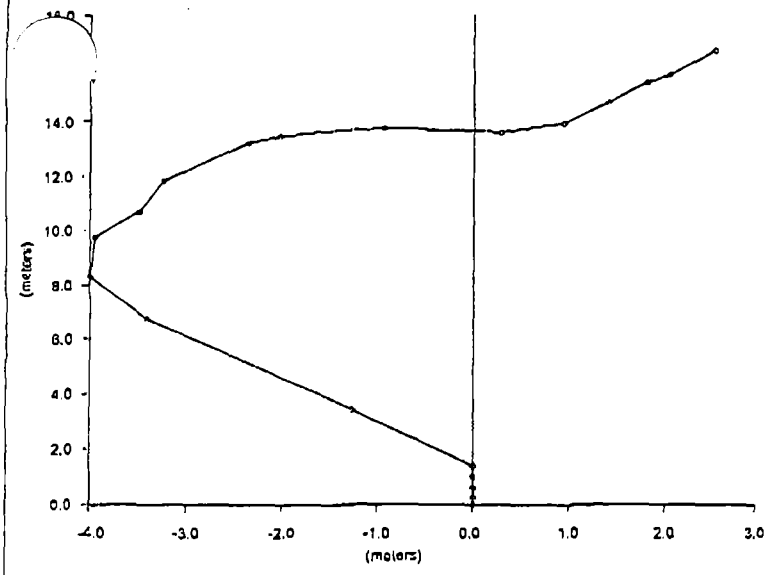
Direction Survey & Geological Report

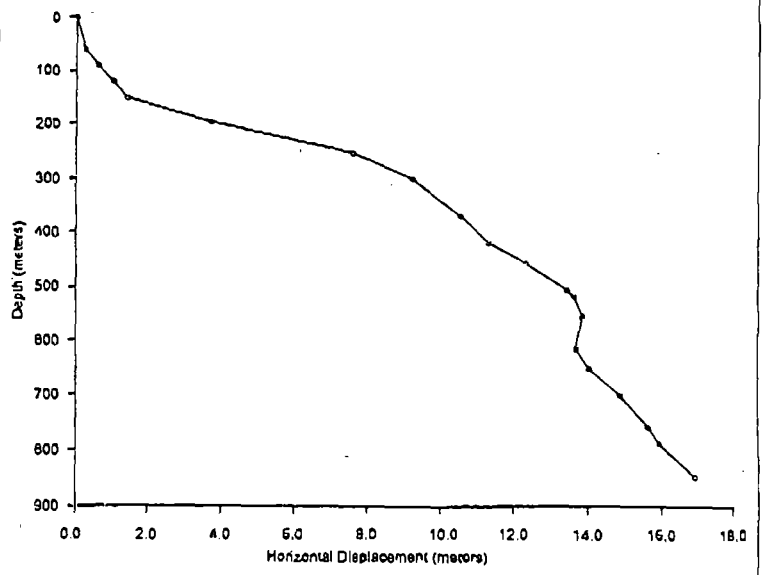
Directional Survey - Alberta Energy Company Ltd.

Well Name: AEC (WEST) REN CARCAJOU D-07

Plan View



Cross-section



Depth	Inclination	Corrected Direction	TVD	Interval	Dogleg degree per 30M	+N/-S	+E/-W	Total +N/-S	Total +E/-W	Total Vertical Section	Final Direction
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
60.00	.50	.00	60.00	60.00	.25	.26	.00	.26	.00	.26	.00
90.00	.82	.00	90.00	30.00	.33	.35	.00	.61	.00	.61	.00
120.00	.75	.00	119.99	30.00	.07	.41	.00	1.02	.00	1.02	.00
150.00	.75	.00	149.99	30.00	.00	.39	.00	1.41	.00	1.41	.00
195.00	5.50	324.00	194.93	45.00	3.28	2.04	-1.27	3.45	-1.27	3.68	339.84
253.00	2.40	335.00	252.79	58.00	1.64	3.35	-2.15	6.80	-3.41	7.61	333.34
[redacted]1.00	1.50	345.00	300.76	48.00	.60	1.52	-.59	8.32	-4.00	9.23	334.31
[redacted]9.00	1.10	26.00	368.74	68.00	.43	1.45	.06	9.77	-3.95	10.53	338.00
[redacted]18.00	1.50	22.50	417.73	49.00	.25	1.02	.45	10.78	-3.49	11.33	342.04
456.00	2.00	5.60	455.71	38.00	.56	1.12	.26	11.90	-3.24	12.33	344.77
505.00	2.20	58.50	504.68	49.00	1.15	1.34	.89	13.24	-2.35	13.45	349.92
515.00	2.40	51.30	514.67	10.00	1.05	.23	.33	13.47	-2.03	13.63	351.44
553.80	1.40	108.20	553.45	38.80	1.56	.36	1.08	13.83	-.94	13.87	356.10
612.00	1.10	84.20	611.64	58.20	.31	-.17	1.23	13.67	.29	13.67	1.21
650.00	1.20	44.30	649.63	38.00	.62	.32	.64	13.99	.93	14.02	3.80
699.00	1.10	15.60	698.62	49.00	.35	.82	.48	14.81	1.41	14.88	5.45
757.00	.60	52.00	756.61	58.00	.37	.72	.39	15.53	1.80	15.64	6.62
786.50	.80	35.10	786.11	29.50	.29	.26	.24	15.80	2.04	15.93	7.37
847.00	1.20	23.20	846.60	60.50	.22	.93	.49	16.73	2.54	16.92	8.62

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To LEAHSA FISHER | From WENDY

Co./Dept. RENAISSANCE | Co. AEC

Phone # 750-1807 | Phone # 261-2455

Fax # 750-1865 | Fax # 716-2455

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Post-it Fax Note [redacted] | Date | # of pages ▸

To ANDY GRAW | From BOB TUPPER

Co./Dept. NER | Co. AEC

Phone # | Phone # 213-2625

Fax # 292-5876 | Fax # 716-2455

Bit Record - Alberta [redacted]gy Company Ltd.

Well Name	AEC (WEST) REN CARCAJOU D-07	Spud Date	03/13/00	Rig Release	03/19/00	#	1
Rig	Akita #14	Tool Push	Ron Savill	Supervisor	ALLAN ANGER, LYNN SANDQUIST, Stephen Holyoa		
KB(m)	87.20	GL(m)	83.20	Total Depth (mKB)	860.00		

BIT RUNS

NO	SIZE (mm)	TYPE	SERIAL #	JETS (mm)			DEPTH IN	DEPTH OUT	METERS DRILLED	Cum Bit Hrs	ROP (m/hr)	CUM HOURS	WT (daN)	RPM	COST MTR	PUMP PRESS	SPM1	SPM2	DULL CODE
1A	311		YE6573	15.00	15.00	15.00	32.00	146.00	114.00	21.00	5.43	0			$108.32				
1AA	311		YE6573	15.00	15.00	15.00	32.00	171.00	139.00	5.25	26.48	0			$32.33				
1	222	SS66L PDC	1962520A	12.70	12.70	12.70	170.00	0	-170.00	30.75	-5.53	30.75	1-3	140	$-123.63	7000	90		
2	156	S-T47	R-482GN	22.00	22.00	22.00	626.00	642.00	16.00	3.25	4.92	34.00			$.00				SCRUBBED
3	156	XR20T	LX336	17.50	17.50	17.50	642.00	860.00	218.00	33.50	6.51	67.50	10000	50	$130.74	7400	90		4-4-WT-A-E-I-TD

CABRA CONSULTING
DAILY GEOLOGICAL WELL REPORT
2000-03-19

AEC (WEST) RENAISSANCE CARCAJOU D-07

Report To:	Glen Andrews	Report From:	Glen Andrews
		Telephone:	600-700-3201
Spud Date:	2000-03-14	Days from Spud:	5
Gd. Elevation:	83.2	K.B. Elevation:	87.5
Depth @ 0600:	860 m	Formation:	Hare Indian
Status @ 0600:	Running casing		
24 hr Progress:	49 m	Average ROP:	7-8 m/hr
Cumulative Cost:			

OPERATIONS SUMMARY - Last 24 Hours

Drill ahead to T.D. of 860m @ 1345 Hrs. Circulate. Wiper trip. Circulate. Pull out of hole. Rig to & log with Schlumberger. Lay down drill string. Rig to & run

SURVEYS

796m - 1.1°; 815m - 2.2°; 825m - 2.3°; 834m - 1.6°; 847m -

MUD PROPERTIES

Type:	Gel Chem
Density:	1100 kg/m^3
Viscosity:	59 s/L
Water Loss:	10 cm^3/30 min
pH:	9.0
Filter Cake:	mm

SAMPLE TOPS

Formation	Sample Depth	TVD	Subsea	Prognosis Subsea	Change
SFC CSNG	172.0	172.0	-84.5		
IMPERIAL	398.0	398.0	-310.5	-309.0	-1.5
CANOL	630.0	630.0	-542.5	-550.0	7.5
KEE SCARP	633.0	633.0	-545.5	-553.0	7.5
HARE INDIAN?	830.0	830.0	-742.5	-717.0	-25.5

FORECAST ACTIVITIES

Run casing. Circulate. Rig to & cement casing. Set slips. Nipple down. Tear out rig. Move to O-47

CABRA CONSULTING
DAILY TOTAL GAS REPORT
2000-03-19

AEC (WEST) RENAISSANCE CARCAJOU D-07

SIGNIFICANT TOTAL GAS RESPONSE SUMMARY

Depth Interval (metres)	Total Gas Response (units)	Average Background (units)	Interpreted Lithology
844	1563	200	Limestone - frac'd

CABRA CONSULTING
DAILY GEOLOGICAL WELL REPORT
2000-03-18

AEC (WEST) RENAISSANCE CARCAJOU D-07

Report To:	Glen Andrews	Report From:	Glen Andrews
		Telephone:	600-700-3201
Spud Date:	2000-03-14	Days from Spud:	4
Gd. Elevation:	83.2	K.B. Elevation:	87.5
Depth @ 0600:	811 m	Formation:	Kee Scarp
Status @ 0600:	Drilling ahead		
24 hr Progress:	136 m	Average ROP:	5-6 m/hr
Cumulative Cost:			

OPERATIONS SUMMARY - Last 24 Hours

Drill ahead & survey. Note: Hare Indian not confirmed in samples - estimate based on shale

SURVEYS

641m - 1.0°; 651m - 1.2°; 660m - 1.7°; 670m - 2.1°; 680m - 1.3°; 699m - 1.1°; 718m - 2.0°; 728m - 1.8°; 738m - 1.1°; 757m - 0.6°; 767m - 0.5°; 777m - 0.8°; 786m -

MUD PROPERTIES

Type:	Gel Chem
Density:	1080 kg/m³
Viscosity:	43 s/L
Water Loss:	10 cm³/30 min
pH:	9.5
Filter Cake:	mm

SAMPLE TOPS

Formation	Sample Depth	TVD	Subsea	Prognosis Subsea	Change
SFC CSNG	172.0	172.0	-84.5		
IMPERIAL	398.0	398.0	-310.5	-309.0	-1.5
CANOL	630.0	630.0	-542.5	-550.0	7.5
KEE SCARP	633.0	633.0	-545.5	-553.0	7.5
HARE INDIAN?	815.0	815.0	-727.5	-717.0	-10.5

FORECAST ACTIVITIES

Drill ahead & survey to T.D (approx 850m). Wiper trip. Circulate. Pull out of hole. Rig in & log. Run

WE ARE HAVING PROBLEMS GETTING FIELD REPORTS; WILL FORWARD ASAP.

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Post-it® Fax Note 7671

To	LEAHSA FISHER	From	WENDY
Co./Dept.	RENAISSANCE	Co.	AEC
Phone #	750-1807	Phone #	261-2455
Fax #	750-1865	Fax #	716-2455

Date | # of pages ▶

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Post-it® Fax Note 7671

To	ANDY GRAW	From	BOB TOPPER
Co./Dept.	NEB	Co.	AEC
Phone #		Phone #	213-2625
Fax #	292-5876	Fax #	716-2455

Date | # of pages ▶

CABRA CONSULTING
DAILY TOTAL GAS REPORT
2000-03-18

AEC (WEST) RENAISSANCE CARCAJOU D-07

SIGNIFICANT TOTAL GAS RESPONSE SUMMARY

Depth Interval (metres)	Total Gas Response (units)	Average Background (units)	Interpreted Lithology
685	4104	180	Limestone - frac
695	697	280	Shale - bituminous?
780	711	140	Shale - bit
792	884	190	Shale - bit
803	1241	200	Shale - bit

SIGNIFICANT CONNECTION, SURVEY, DOWN TIME AND TRIP GAS

Depth (metres)	Total Gas Response (units)	Average Background (units)	Pumps Off (min)
692	3406	400	15
713	797	300	4
731	1060	165	6
761	278	95	5
789	803	145	5
809	3306	140	5

CABRA CONSULTING
DAILY TOTAL GAS REPORT
2000-03-17

AEC (WEST) RENAISSANCE CARCAJOU D-07

TOTAL GAS RESPONSE SUMMARY

Depth Interval (metres)	Total Gas Response (units)	Depth Interval (metres)	Total Gas Response (units)
626-630	40-70	648-655	100-350
630-633	150-250	655-670	100-1022
633-648	20-70		

SIGNIFICANT TOTAL GAS RESPONSE SUMMARY

Depth Interval (metres)	Total Gas Response (units)	Average Background (units)	Interpreted Lithology
630-633	250	60	Shale - Canol
648-655	350	60	Chert - frac'd
663-666	1022	150	Limestone - frac'd

CABRA CONSULTING
DAILY GEOLOGICAL WELL REPORT
2000-03-16

AEC (WEST) RENAISSANCE CARCAJOU D-07

Report To:	Glen Andrews	Report From:	Glen Andrews
		Telephone:	600-700-2868
Spud Date:	2000-03-13	Days from Spud:	3
Gd. Elevation:	83.2	K.B. Elevation:	87.5
Depth @ 0600:	626 m	Formation:	Imperial
Status @ 0600:	Wait on cement		
24 hr Progress:	68 m	Average ROP:	18 m/hr
Cumulative Cost:			

OPERATIONS SUMMARY - Last 24 Hours

Drill ahead & survey to 616m. Circulate. Wiper trip. Drill ahead to Intermediate casing point of 626m @ 1645 Hrs. Circulate. Pull out of hole to run casing. Rig to & run 51 joints 177.8mm casing landed @ 626m. Rig to & cement casing. Plug down @ 0300 Hrs March 16/2000.

SURVEYS

553.8m - 1.7°; 573.1m - 1.4°; 592.5m - 1.1°; 612m -

MUD PROPERTIES

Type:	H20
Density:	1060 kg/m³
Viscosity:	s/L
Water Loss:	cm³/30 min
pH:	
Filter Cake:	mm

SAMPLE TOPS

Formation	Sample Depth	TVD	Subsea	Prognosis Subsea	Change
SFC CSNG	172.0	172.0	-84.5		
IMPERIAL	398.0	398.0	-310.5	-309.0	-1.5

FORECAST ACTIVITIES

Drill ahead & survey this

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To LEANSA FISHER	From WENDY	
Co./Dept. RENAISSANCE	Co. AEC	
Phone # 750-1807	Phone # 261-2455	
750-1865	Fax # 716-2455	

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Post-it Fax Note 7671	Date	# of pages ▸
To ANDY GRAW	From BOB TUPPER	
Co./Dept. NEB	Co. AEC	
Phone #	Phone # 213-2625	
Fax # 292-5876	Fax # 716-2455	

CABRA CONSULTING
DAILY TOTAL GAS REPORT
2000-03-16

AEC (WEST) RENAISSANCE CARCAJOU D-07

TOTAL GAS RESPONSE SUMMARY

Depth Interval (metres)	Total Gas Response (units)	Depth Interval (metres)	Total Gas Response (units)
545-580	80-190	600-602	2602
580-600	120-265	602-626	130-240

SIGNIFICANT TOTAL GAS RESPONSE SUMMARY

Depth Interval (metres)	Total Gas Response (units)	Average Background (units)	Interpreted Lithology
600-602	2602	180	Sandstone - fractur

SIGNIFICANT CONNECTION, SURVEY, DOWN TIME AND TRIP GAS

Depth (metres)	Total Gas Response (units)	Average Background (units)	Pumps Off (min)
616	894	150	200

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DAILY GEOLOGICAL WELL REPORT
2000-03-15

AEC (WEST) RENAISSANCE CARCAJOU D-07

Report To:	Glen Andrews	Report From:	Glen Andrews
		Telephone:	600-700-3201
Spud Date:	2000-03-13	Days from Spud:	1
Gd. Elevation:	83.2	K.B. Elevation:	87.5
Depth @ 0600:	558 m	Formation:	Imperial
Status @ 0600:	Drilling ahead with motor		
24 hr Progress:	311 m	Average ROP:	20 m/hr
Cumulative Cost:			

OPERATIONS SUMMARY - Last 24 Hours

Drill ahead &

SURVEYS

195.2m - 5.5°; 214.6m - 3.3°; 234m - 2.1°; 243.8m - 1.2°; 263.1m - 2.5°; 282.5m - 2.7°; 302m - 1.5°; 321.3m - 1.6°; 340.7m - 1.1°; 389m - 1.1°; 418.1m - 1.5°; 456.8m - 2.0°; 476.2m - 1.4°; 505.3m - 2.2°; 524.7m - 2.1°; 544.1m -

MUD PROPERTIES

Type:	H20
Density:	1060 kg/m³
Viscosity:	s/L
Water Loss:	cm³/30 min
pH:	
Filter Cake:	mm

SAMPLE TOPS

Formation	Sample Depth	TVD	Subsea	Prognosis Subsea	Change
SFC CSNG	172.0	172.0	-84.5		
IMPERIAL	398.0	398.0	-310.5	-309.0	-1.5

FORECAST ACTIVITIES

Drill ahead & survey to intermediate casing point. Wiper trip. Circulate. Pull out of hole to run

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To LEAH SA FISHER | From WENDY
Co./Dept. RENAISSANCE | Co. AEC
Phone # 750 - 1607 | Phone # 261-2455
Fax # 750-1865 | Fax # 716-2455

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Post-it Fax Note 7671E | Date | # of pages ▸
To ANDY GRAW | From BOB TUPPER
Co./Dept. NEB | Co. AEC
Phone # | Phone # 213-2625
Fax # 292-5876 | Fax # 716-2455

CABRA CONSULTING
DAILY GEOLOGICAL WELL REPORT
2000-03-14

AEC (WEST) RENAISSANCE CARCAJOU D-07

Report To:	Glen Andrews	Report From:	Glen Andrews
		Telephone:	600-700-3201
Spud Date:	2000-03-13	Days from Spud:	0
Gd. Elevation:	83.2	K.B. Elevation:	87.5
Depth @ 0600:	247 m	Formation:	Cretaceous
Status @ 0600:	Drilling ahead		
24 hr Progress:	75 m	Average ROP:	15 m/hr
Cumulative Cost:			

OPERATIONS SUMMARY - Last 24 Hours

Rig up. Nipple up. Pressure test. Pick up directional tools & PDC bit. Run in hole. Pressure test. Drill out cement @ 2300 Hrs. Well spudded 0030 hrs 2000-03-14. Drill ahead & survey with mud motor. Background gas 10-50 units. Peaks of up to 80 units from carbonaceous

MUD PROPERTIES

Type:	H20
Density:	kg/m³
Viscosity:	s/L
Water Loss:	cm³/30 min
pH:	
Filter Cake:	mm

SAMPLE TOPS Formation	Sample Depth	TVD	Subsea	Prognosis Subsea	Change
SFC CSNG	172.0	172.0	-84.5		

FORECAST ACTIVITIES

Drill ahead &

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Post-it Fax Note 7671	Date	# of pages ▸
To LEAHSA FISHER	From WENDY	
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Phone # 750-1807	Phone # 261-2455	
Fax # 750-1865	Fax # 716-2455	

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Post-it Fax Note 7671	Date	# of pages ▸
To ANDY GRAW	From BOB TUPPER	
Co./Dept. NEB	Co. AEC	
Phone #	Phone # 213-2625	
Fax # 292-5876	Fax # 716-2455	

CABRA CONSULTING
DAILY GEOLOGICAL WELL REPORT
2000-03-13

AEC (WEST) RENAISSANCE CARCAJOU D-07

Report To:	Glen Andrews	Report From:	Glen Andrews
		Telephone:	600-700-3201
Spud Date:	2000-03-13	Days from Spud:	0
Gd. Elevation:	83.2	K.B. Elevation:	87.5
Depth @ :	m	Formation:	
Status @ 0600:	Rig up/Nipple up		
24 hr Progress:	m	Average ROP:	m/hr
Cumulative Cost:			

OPERATIONS SUMMARY - Last 24 Hours

Move rig from O-74 to D-07 location. D-07 location is small -- rig move

FORECAST ACTIVITIES

Nipple up. Pressure test. Drill out cement. Drill

compu-max
71 Martinview Road, N.E.
CALGARY, Alberta
T3J 2W2 (403) 280-5857

COMPOSITE WELL HISTORY
DRILLING TIME
LITHOLOGY LOG

COMPANY: AEC OIL & GAS LTD
WELL: AEC (WEST) RENAISSANCE CARCAJOU D-07
FIELD: EXPLORATORY
PROVINCE: NWT
LOCATION: LSD SEC TWP RGE W MERIDIAN

COORDINATES:
ELEVATIONS: GD 83.2 m
KB 87.5 m
LOG MEASURED FROM KB
4.3 m ABOVE GROUND
WELL TYPE: EXPLORATORY
TOTAL DEPTH:
SPUD DATE: 2000-03-13
T.D. DATE:
LICENCE No.: 1890
AFE No.: 5000047

CONTRACTOR: AKITA #14
MUD TYPE: GEL CHEM
MUD UP @:
SAMPLES: 5 & 2.5 METER INTERVALS
AEC/REN: 172m TO T.D.m
GOV'T: 172m TO T.D.m
DSTs:

CORES: NONE

OPEN HOLE LOGS: SCHLUMBERGER

SUPERVISION
GEOLOGICAL: Glen MacIntosh
DRILLING: EVELYN SANDQUIST

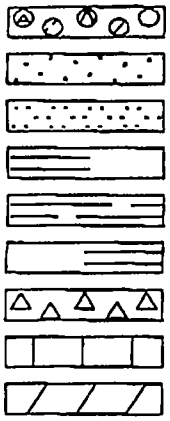
CASING DEPTH
SURFACE: 172 m
INTERMEDIATE: m
MAIN: m

CASING SIZE
SURFACE: 244.5 mm
INTERMEDIATE: 177.8 mm
MAIN: 114 mm

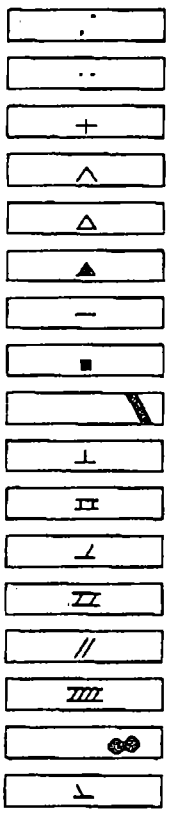
HOLE SIZE
SURFACE: 311 mm
INTERMEDIATE: 222 mm
MAIN: 156 mm

REMARKS:

ROCK TYPE



ACCESSORIES



OIL SHOWS

- EVEN STAINING, FLUORESCES
- SPOTTY STAIN, FLUORESCES
- QUESTIONABLE, NO FLUORESCENCE,
- DEAD, ASPHALTIC

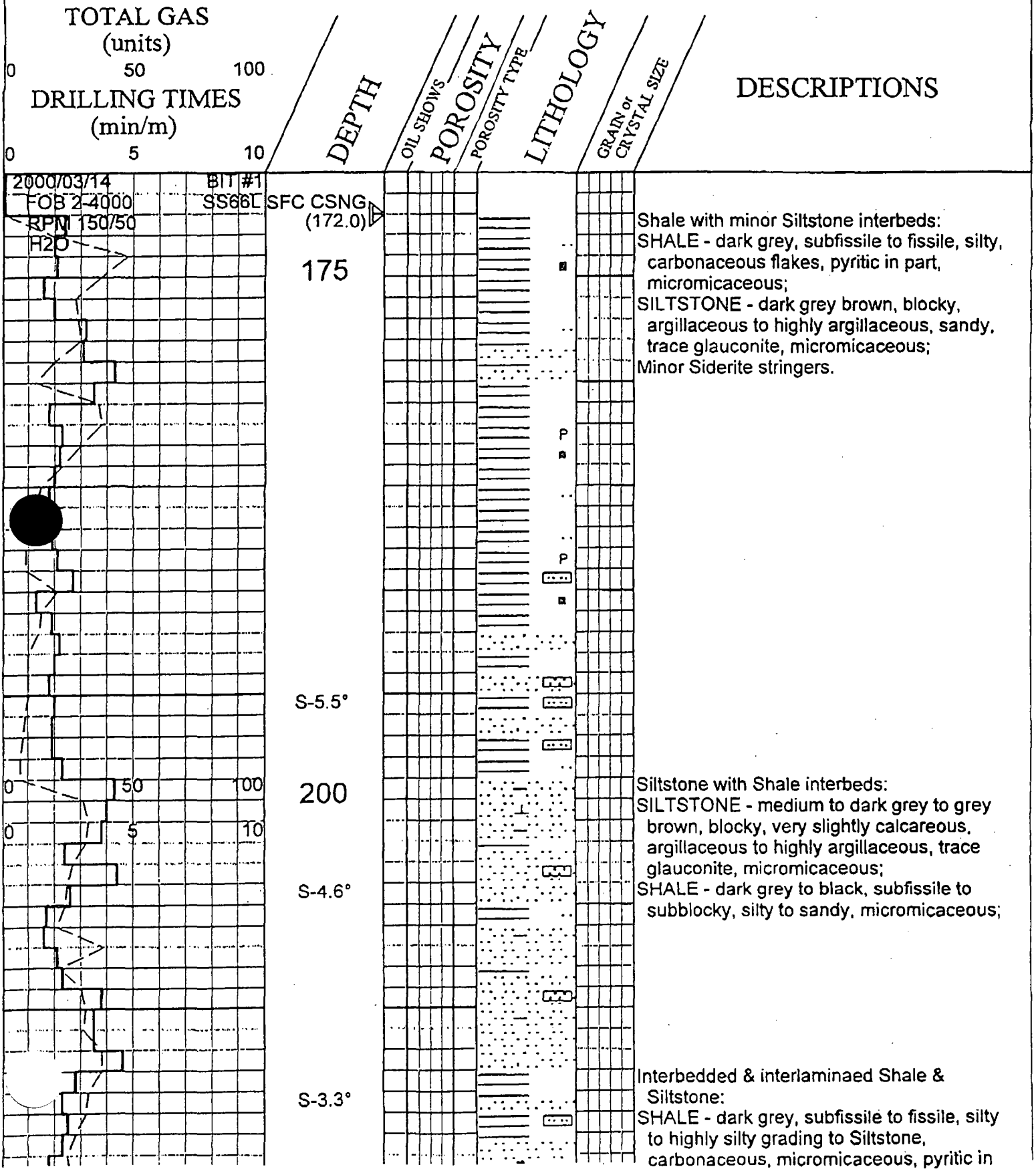
POROSITY TYPES

- X INTERCRYSTALLINE, INTERGRANULAR
- INTEROOLITIC, INTEPELLETOID,
- V VUGGY,
- P PINPOINT,
- MOLDIC
- O ORGANIC
- F FRACTURE
- e EARTHY
- FENESTRAL

DUNHAM CLASSES

- PK PACKSTONE
- WK WACKESTONE
- MD MUDSTONE
- BD BOUNDSTONE
- GR GRAINSTONE

SCALE 1:240

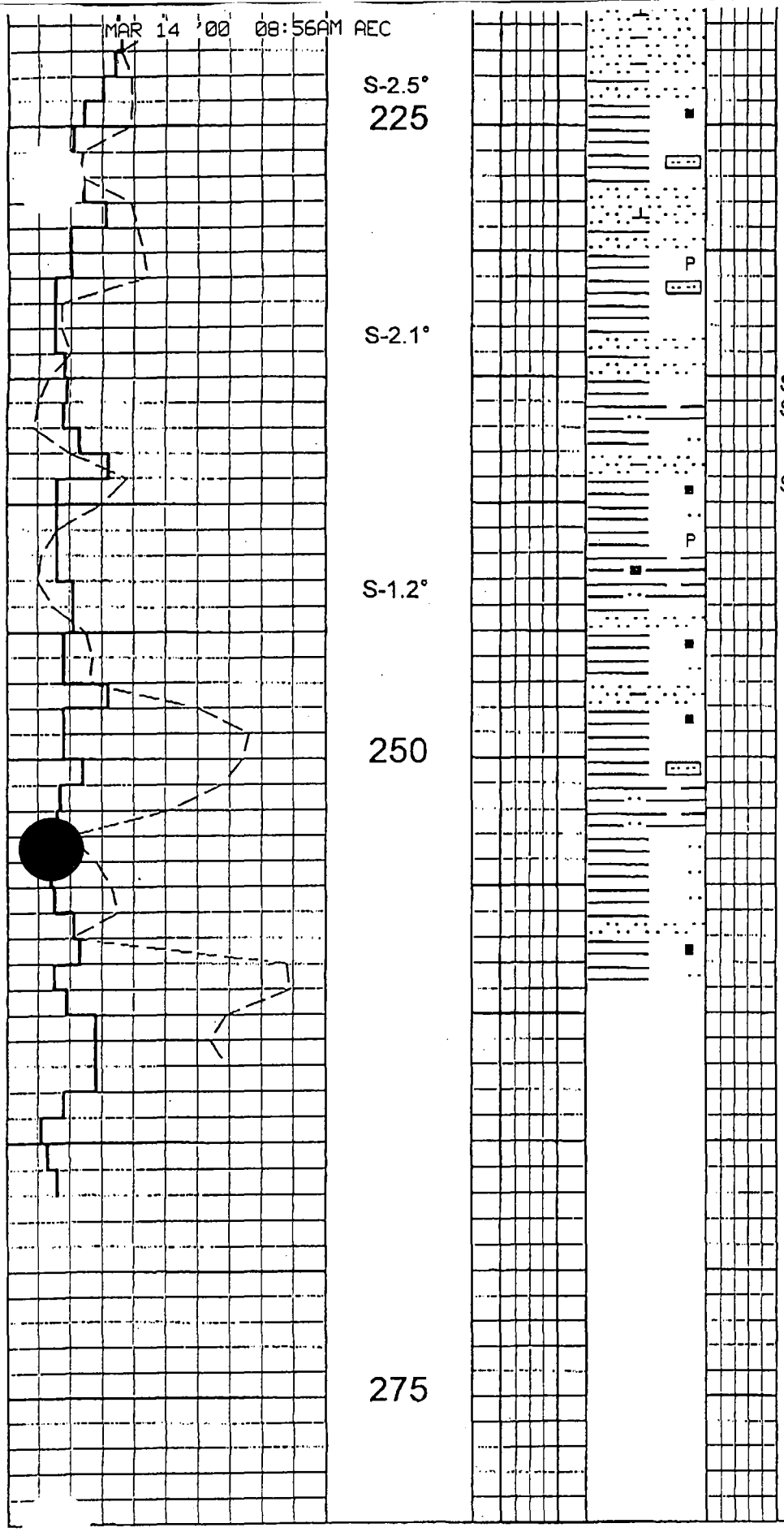


DESCRIPTIONS

Shale with minor Siltstone interbeds:
SHALE - dark grey, subfissile to fissile, silty, carbonaceous flakes, pyritic in part, micromicaceous;
SILTSTONE - dark grey brown, blocky, argillaceous to highly argillaceous, sandy, trace glauconite, micromicaceous;
Minor Siderite stringers.

Siltstone with Shale interbeds:
SILTSTONE - medium to dark grey to grey brown, blocky, very slightly calcareous, argillaceous to highly argillaceous, trace glauconite, micromicaceous;
SHALE - dark grey to black, subfissile to subblocky, silty to sandy, micromicaceous;

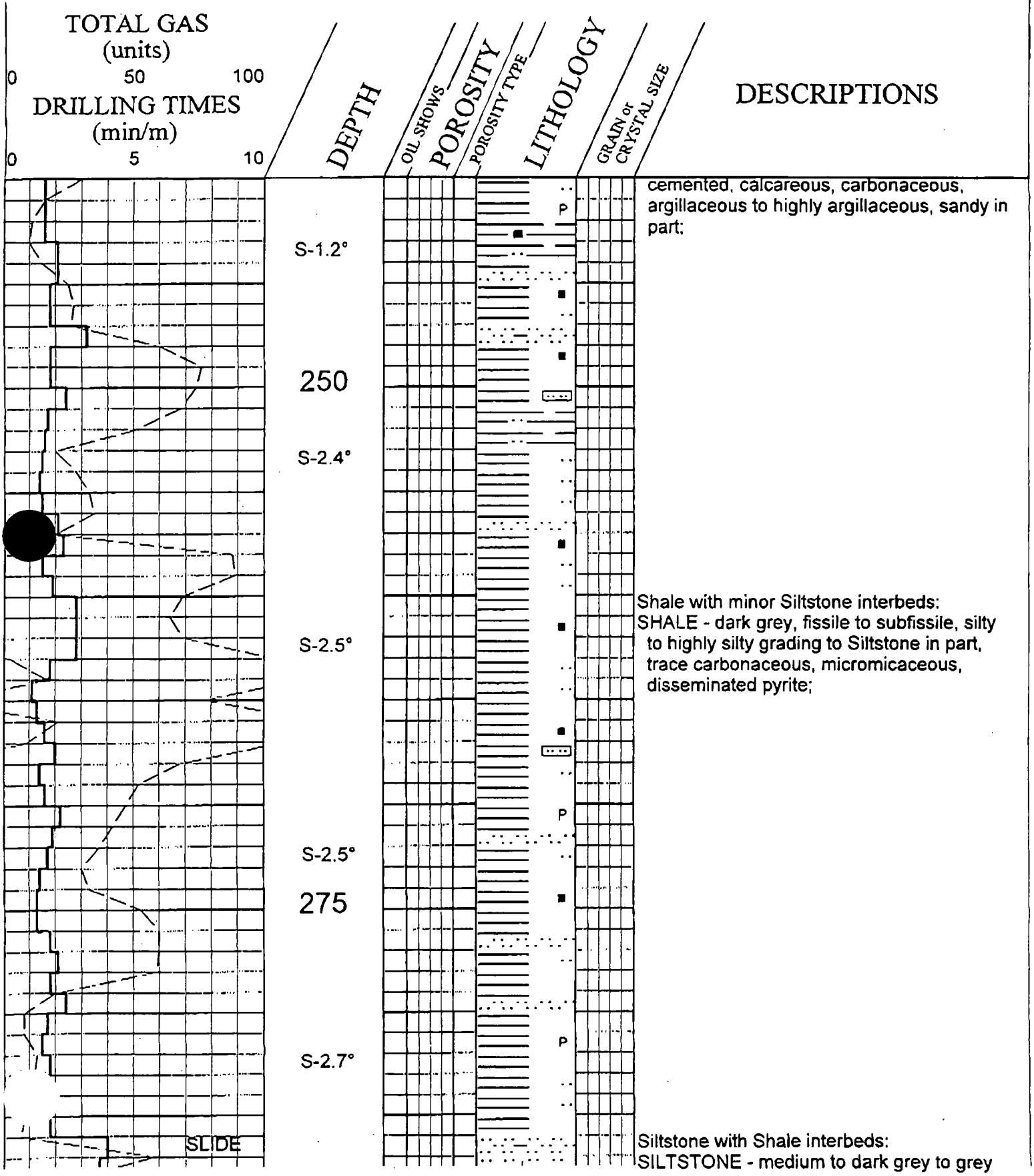
Interbedded & interlaminaed Shale & Siltstone:
SHALE - dark grey, subfissile to fissile, silty to highly silty grading to Siltstone, carbonaceous, micromicaceous, pyritic in

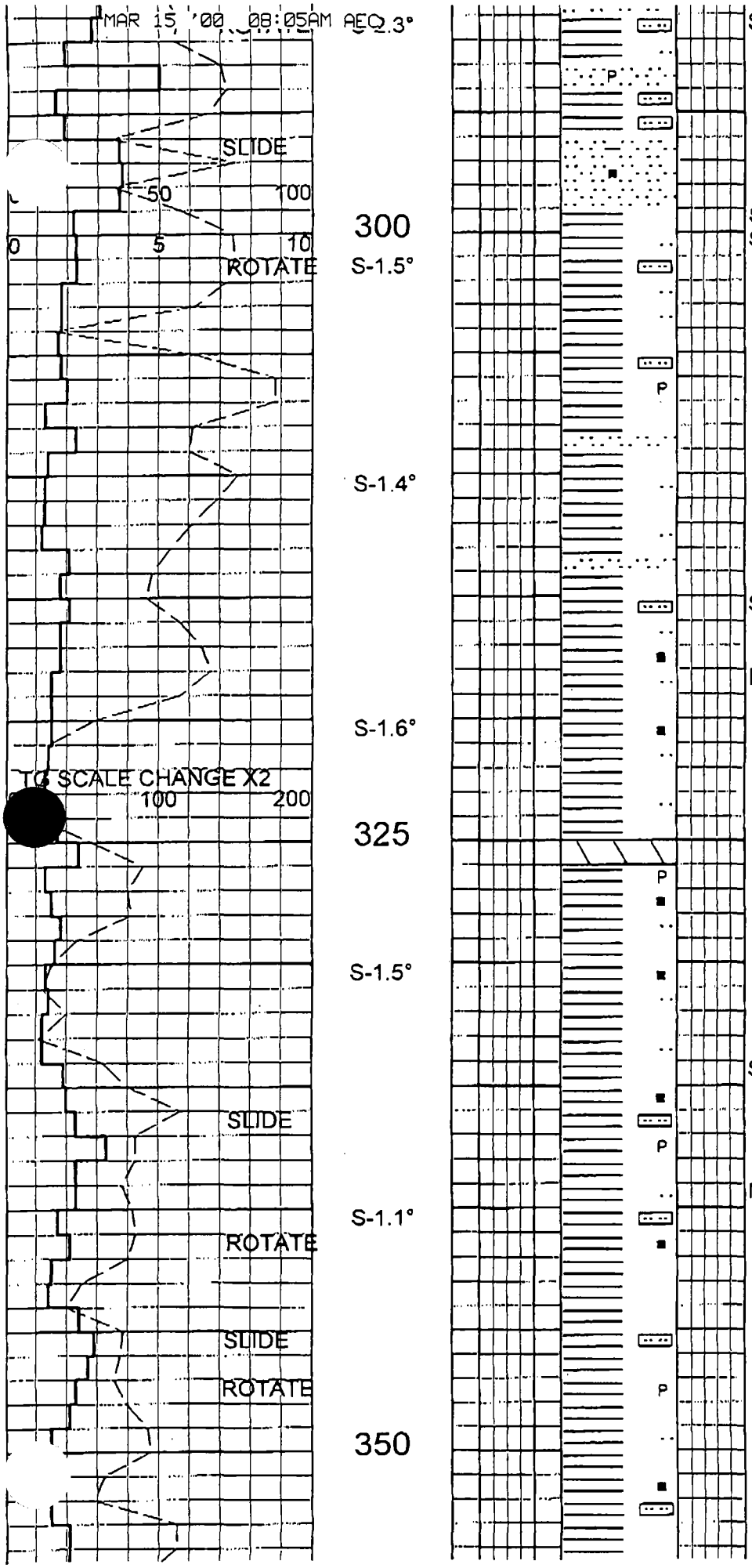


cemented, calcareous to siderite cement, argillaceous to highly argillaceous grading to Shale, becoming sandy in part;

Shale with Siltstone interbeds:
SHALE - dark grey to black, fissile to subfissile, platy, silty, carbonaceous, minor disseminated pyrite;
SILTSTONE - dark grey to grey brown, well cemented, calcareous, carbonaceous, argillaceous to highly argillaceous, sandy in part;

CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS SCALE 1:240



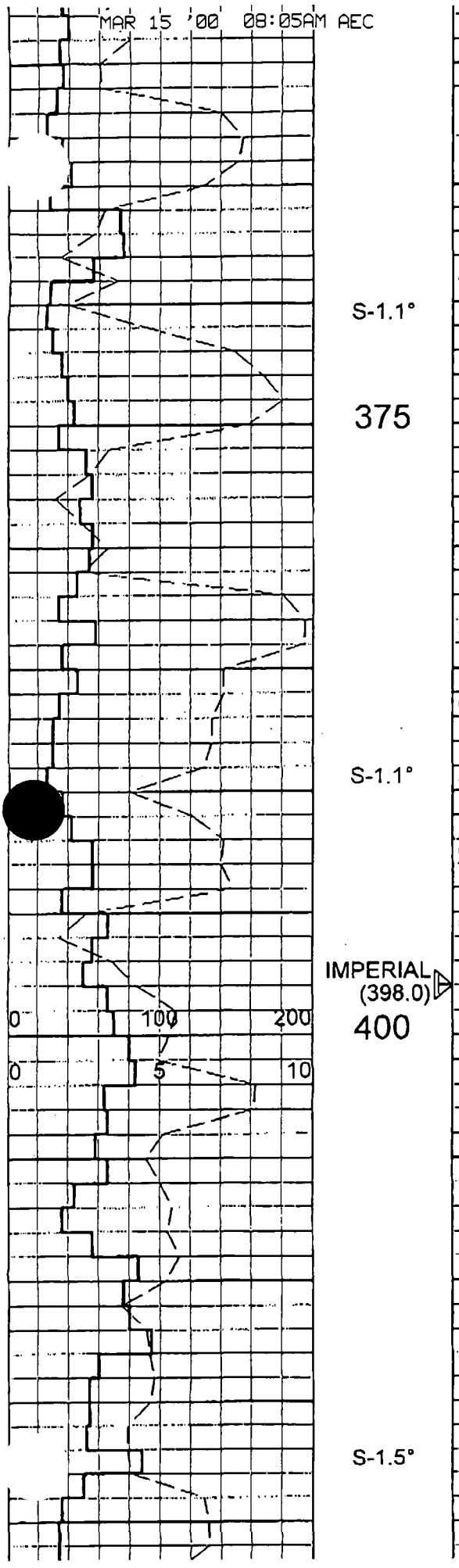


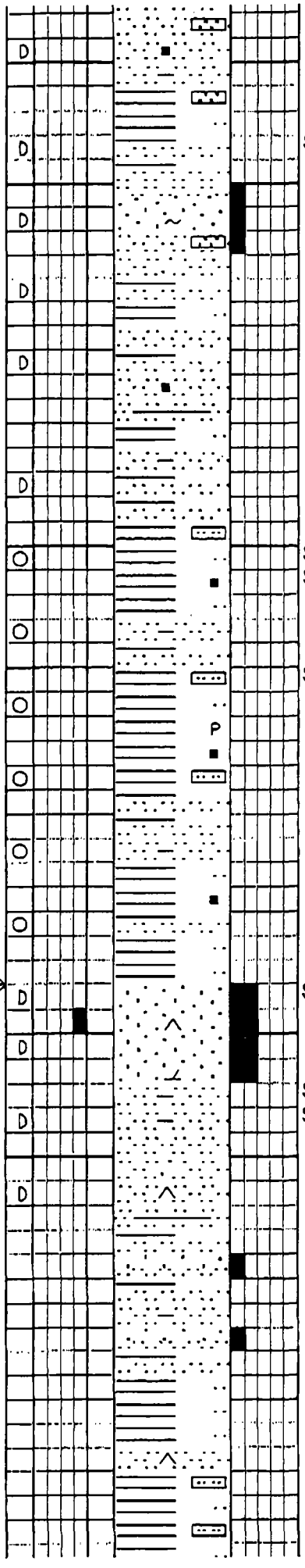
SHALE - dark grey, fissile to sP. 3/6ile, silty to highly silty grading to Siltstone in part, trace carbonaceous, micromicaceous, disseminated pyrite;

Shale with Siltstone & Siderite stringers:
SHALE - dark grey, fissile to subfissile, silty grading to Siltstone in part, micromicaceous, trace pyrite.

SHALE - dark grey to black, fissile to subfissile, carbonaceous, silty, micromicaceous;
Minor Siderite interbeds.

SHALE - dark grey to black, fissile to subfissile, platy to splintery in part, carbonaceous, silty to sandy, trace glauconite, micromicaceous, disseminated pyrite;
Minor Siderite interbeds.





S-1.1°

375

IMPERIAL (398.0)

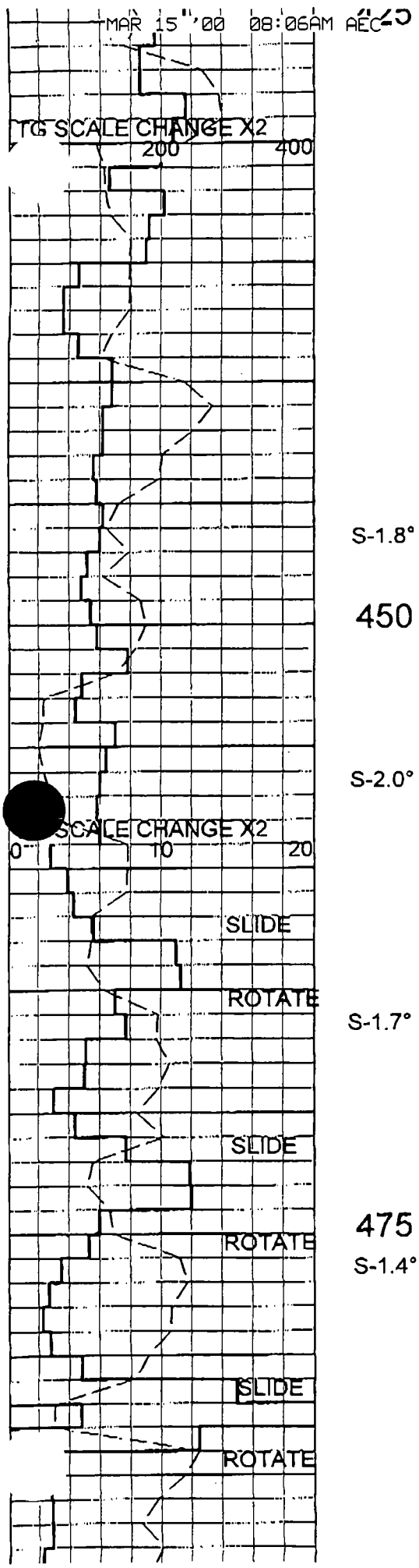
400

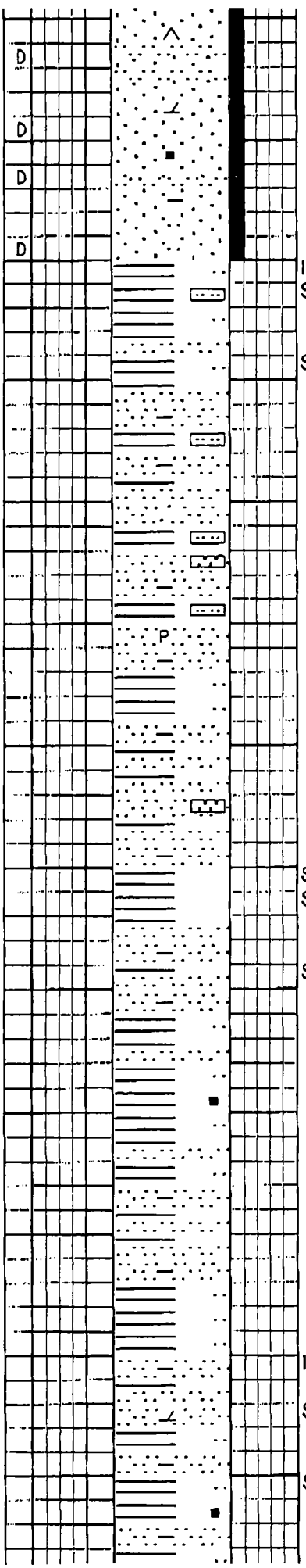
S-1.5°

slightly calcareous in part, sandy grading to very fine Sandstone in part, trace glauconitic, trace carbonaceous, micromicaceous, disseminated pyrite, tight, fast white cut;
SHALE - dark grey, fissile to subfissile, platy, carbonaceous, silty to sandy, micromicaceous.

Shale with Siltstone interbeds & laminae:
SHALE - dark grey to brown grey, fissile to subfissile, silty grading to Siltstone, carbonaceous, micromicaceous, disseminated pyrite;
SILTSTONE - dark grey brown, well cemented, argillaceous, calcareous in part, slightly sandy, micromicaceous, ? cut.

SANDSTONE - lt grey to off white, vf to f grained, angular to subangular, well sorted, mod to well cemented, dol & sil cement, trace poor porosity to tight, fast white cut.
Siltstone with Shale interbeds:
SILTSTONE - grey to grey brown, siliceous, slightly calcareous in part, sandy grading to very fine Sandstone in part, argillaceous, ? to no shows SHALE - dark grey, fissile to subfissile, silty grading to Siltstone, micromicaceous, trace carbonaceous.



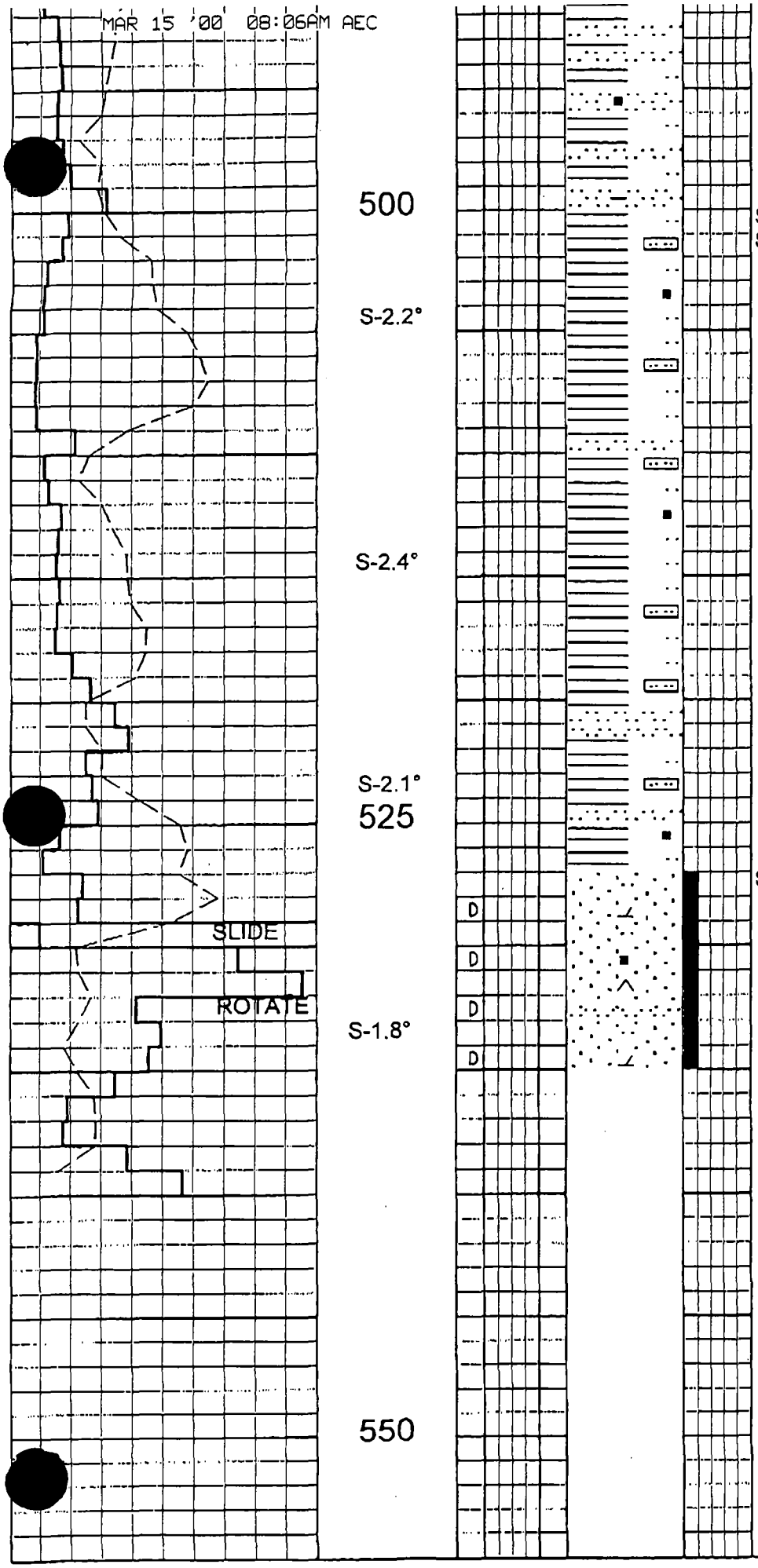


silica cement, slightly dolomiP.5/6y, slightly carbonaceous, tight, fast white cut.

Interbedded Siltstone & Shale:
SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone in part, argillaceous;
SHALE - dark grey, fissile , silty, micromicaceous, trace carbonaceous.

Shale with Siltstone interbeds:
SHALE - dark grey, fissile to subfissile, blocky , silty, micromicaceous, trace carbonaceous;
SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone in part, argillaceous.

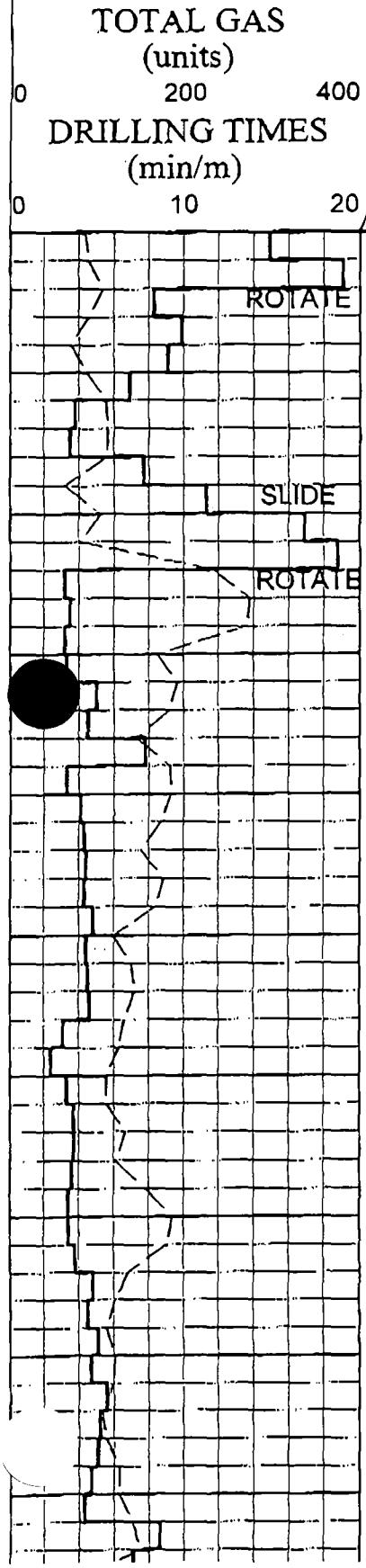
Interbedded & interlaminated Shale & Siltstone:
SHALE - dark grey, fissile to subfissile, blocky , silty, micromicaceous, trace carbonaceous;
SILTSTONE - grey to grey brown, siliceous, vey slightly dolomitic, sandy grading to very fine Sandstone in part, trace carbonaceous, argillaceous.

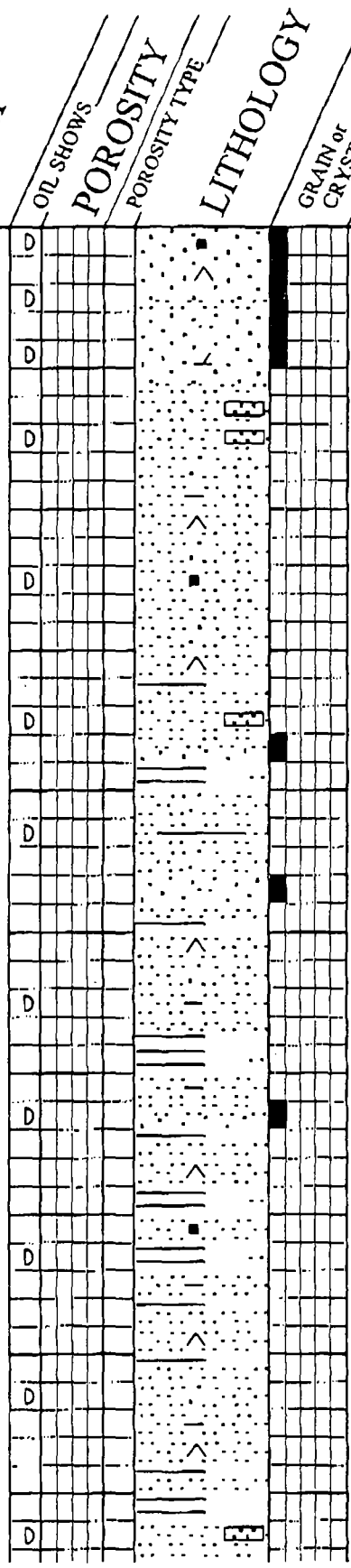


Shale wih Siltstone stringers:
SHALE - dark grey, fissile, silty grading to Siltstone in part, micromicaceous, trace carbonaceous.

SANDSTONE - light grey, silt to very fine Sandstone, subangular, well sorted, well cemented, dolomitic cement, siliceous, trace carbonaceous, tight, fast white cut.

CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS SCALE 1:240





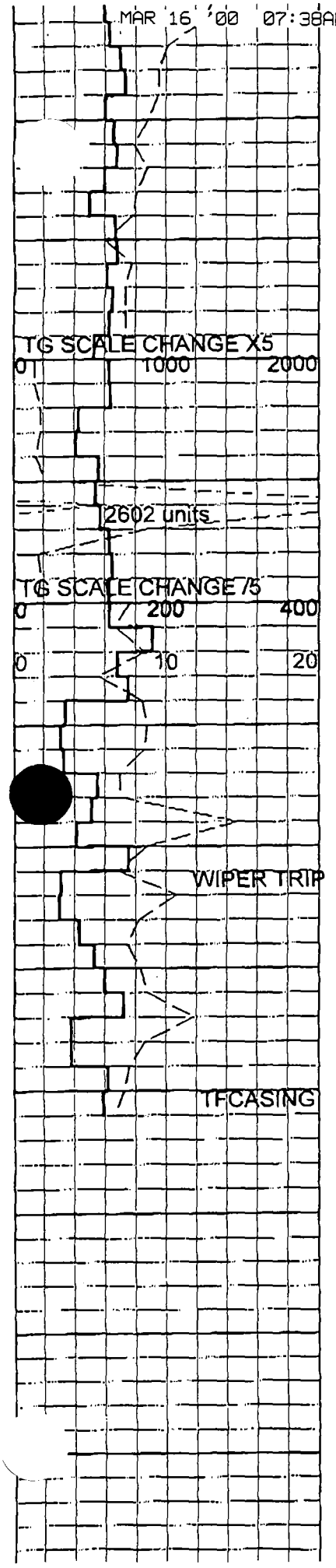
DESCRIPTIONS

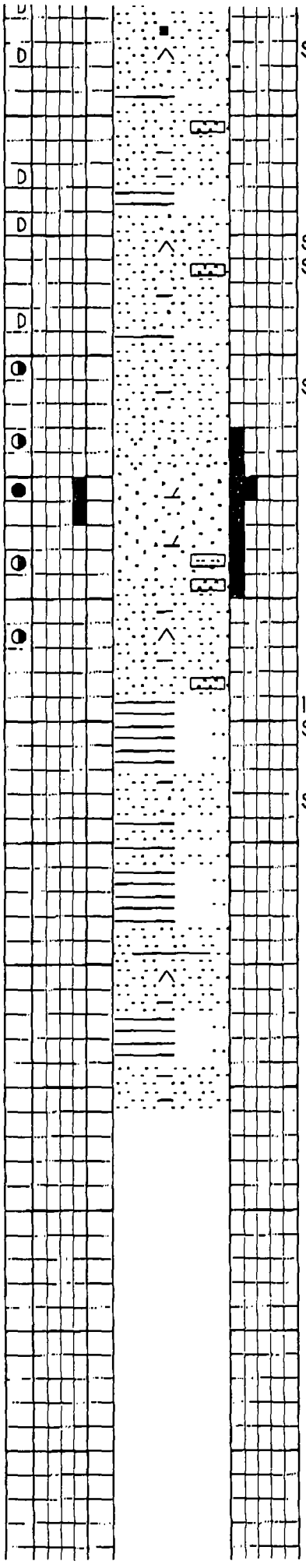
trace carbonaceous, tight to trace por porosity, fast white cut.

SILTSTONE - light to medium brownish grey, moderately to well cemented, silica cement, sandy grading to Sandstone in part, argillaceous, slightly carbonaceous, tight, fast white cut.

Interbedded Siltstone, Sandstone & Shale:
SILTSTONE - light to medium brownish grey, moderately to well cemented, silica cement, sandy grading to Sandstone in part, argillaceous, slightly carbonaceous, tight, fast white cut;
SANDSTONE - light to medium grey, very fine grained, subangular, well sorted, moderately cemented, silica cement, silty to highly silty, argillaceous, trace carbonaceous, tight to rare poor porosity, no florescence, fast white cut;
SHALE - dark grey, subfissile to subblocky, silty to highly silty, micromicaceous.

Siltstone with minor Shale interbeds:
SILTSTONE - light to medium brownish grey,





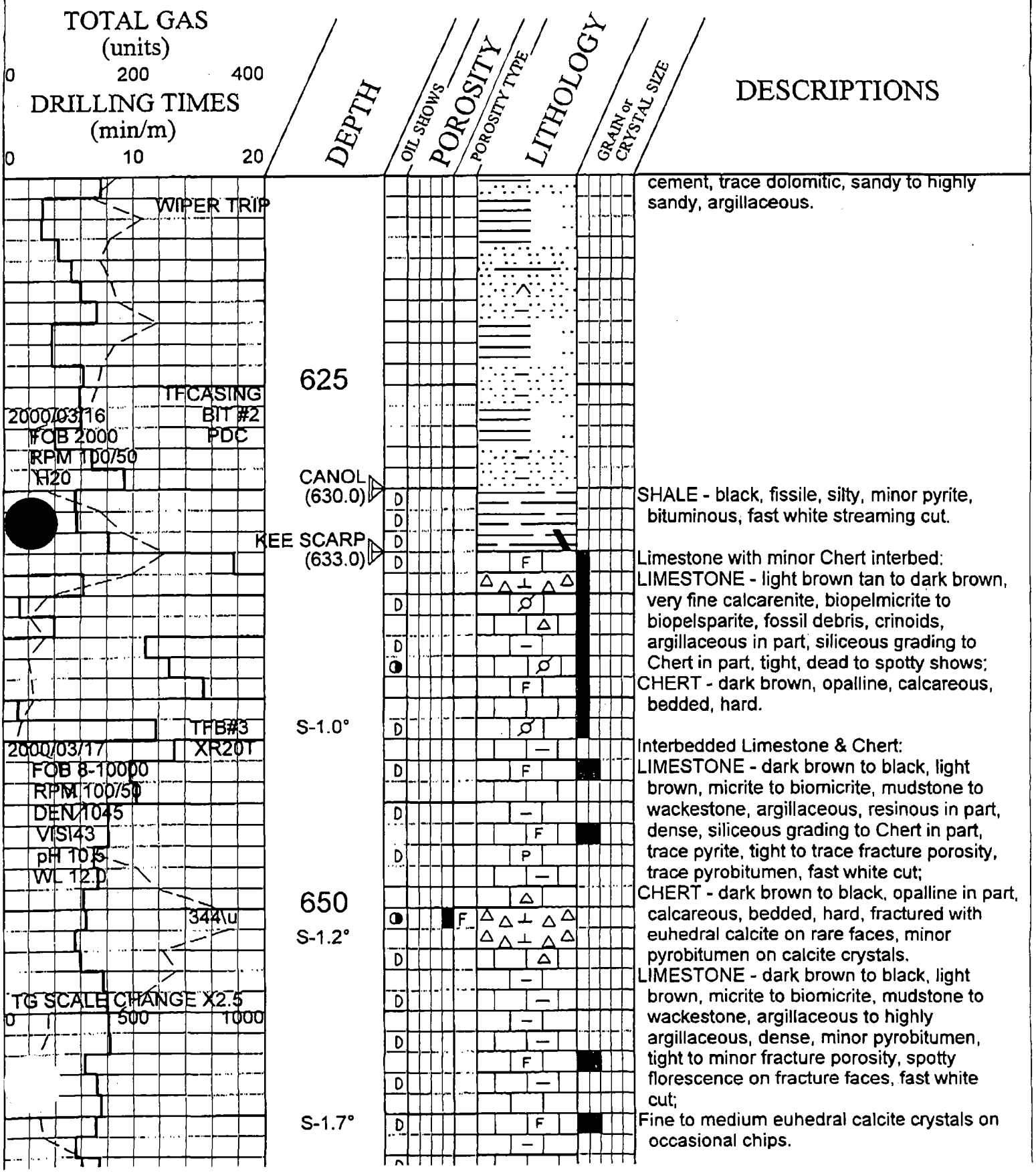
tight, fast white cut;

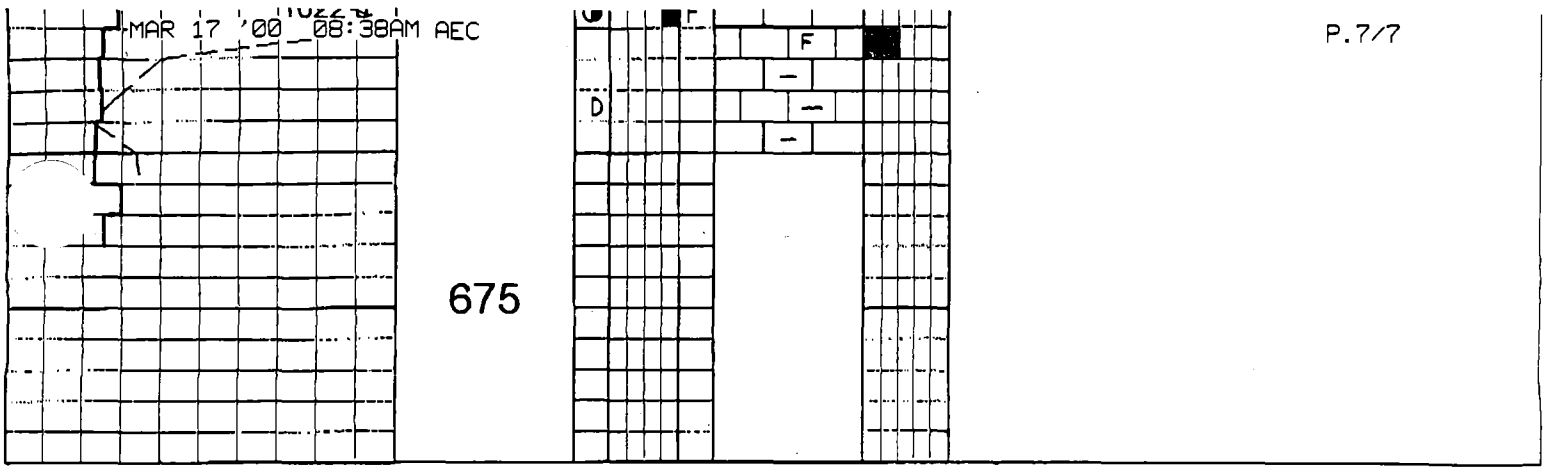
SHALE - dark grey, subfissile to subblocky, silty to highly silty, micromicaceous.

Siltstone grading to Sandstone:
SILTSTONE - light to medium grey, moderately to well cemented, silica cement, trace dolomitic, sandy to highly sandy, argillaceous, moderate to fast white cut;
SANDSTONE - light grey, very fine to trace fine grained, subangular, well sorted, moderately to well cemented, dolomitic cement, argillaceous, slightly carbonaceous, poor fracture porosity to tight, weak white florescence, fast white cut.

Interbedded Shale & Siltstone:
SHALE - dark grey to black, fissile to subfiissile, silty to very silty, micromicaceous;
SILTSTONE - light to medium grey, moderately to well cemented, silica cement, trace dolomitic, sandy to highly sandy, argillaceous;

CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS SCALE 1:240




675
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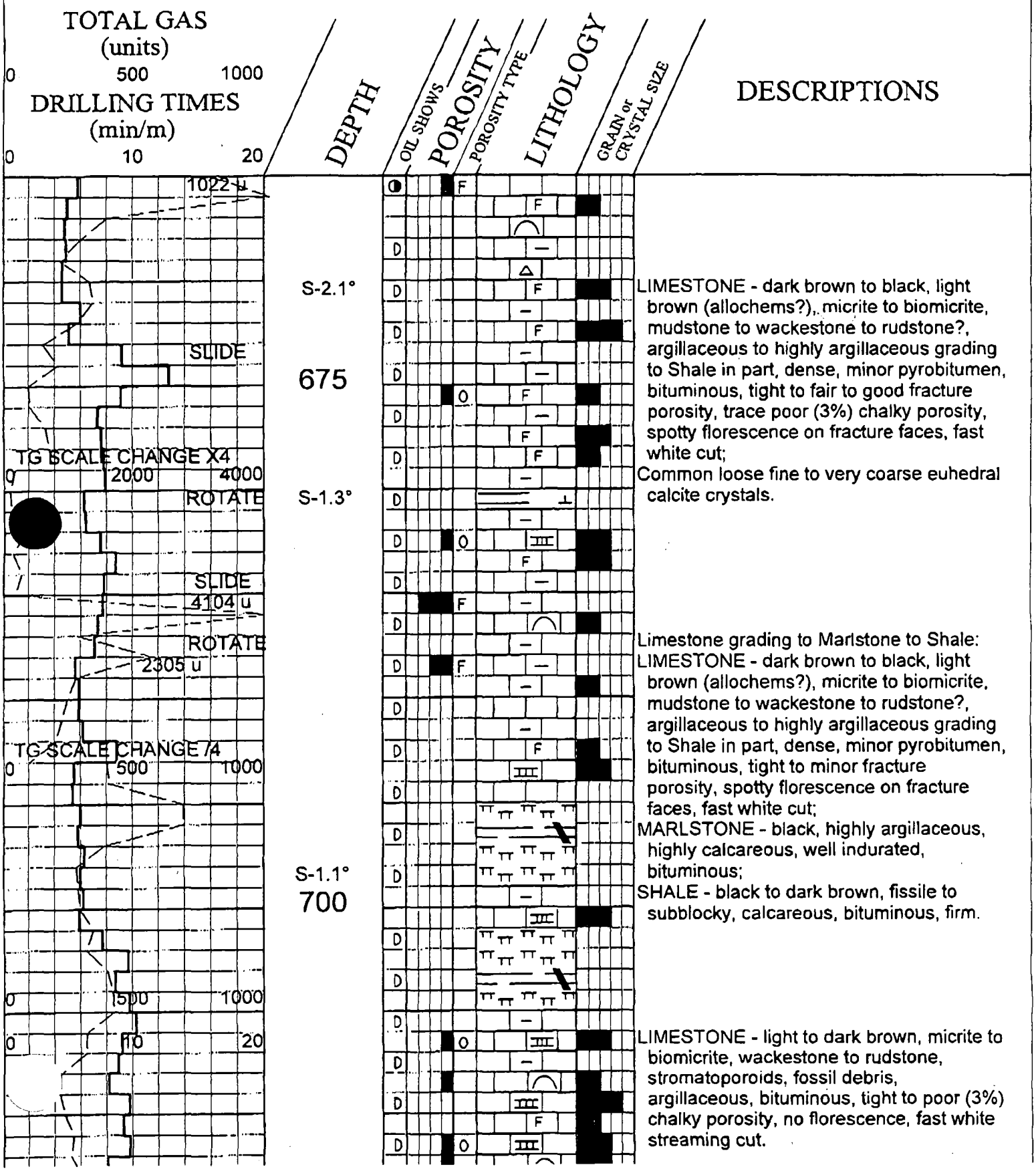
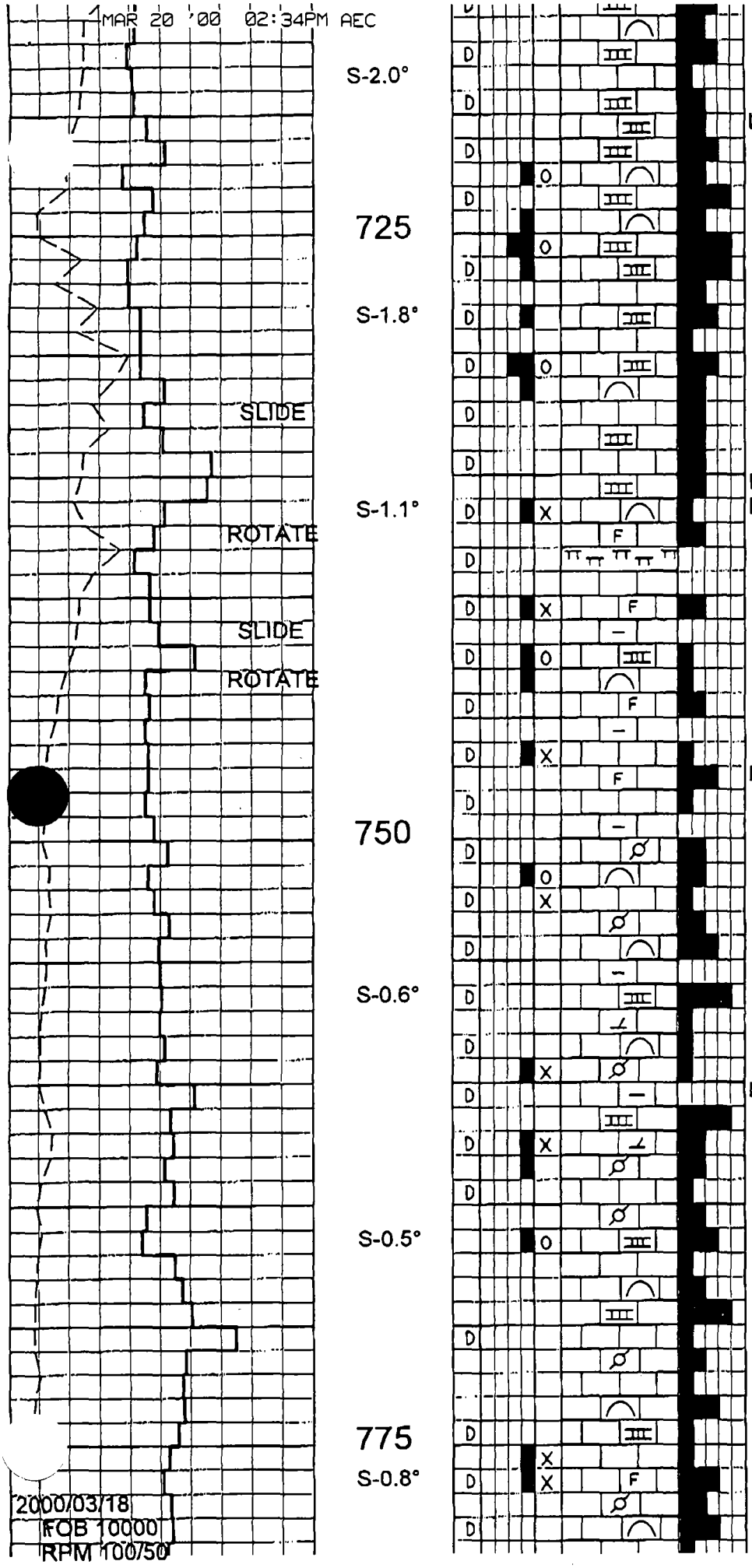
CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS SCALE 1:240



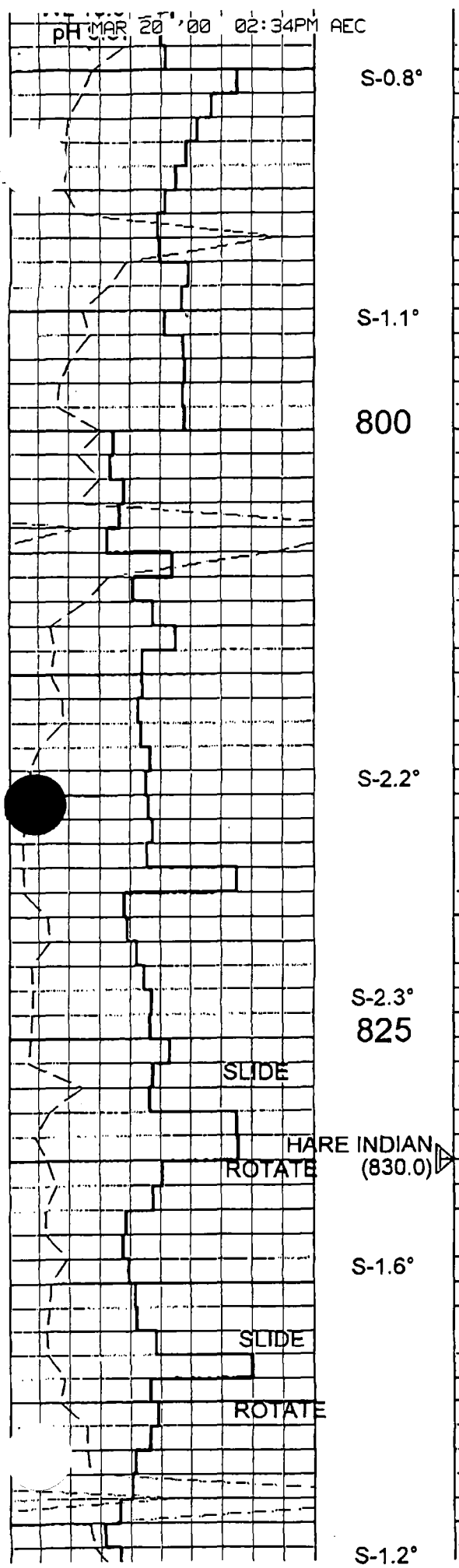


LIMESTONE - light to dark grey brown, micrite to biomicrite, wackestone to rudstone, stromatoporoids, crinoids, fossil debris, argillaceous, bituminous, tight to poor to fair (3-6%) chalky porosity, no florescence, fast white streaming cut.

Limestone with minor Marlstone:
LIMESTONE - medium grey brown to dark brown, micrite to biomicrite, rudstone, stromatoporoids, fossil debris, argillaceous to highly argillaceous in part, bituminous, tight to minor poor 3% chalky porosity, poor to fast streaming white cut.

LIMESTONE - light to medium brown to dark brown, calcilutite to medium calcarenite, micrite to biopelmicrite, mudstone to wackestone to rudstone, stromatoporoids, fossil debris, slightly dolomitic, slightly argillaceous, slightly bituminous, tight to minor poor porosity, poor to fast streaming white cut.

LIMESTONE - light to medium brown to dark brown, calcilutite to medium calcarenite, micrite to biopelmicrite, mudstone to wackestone to rudstone, stromatoporoids, fossil debris, slightly dolomitic, slightly argillaceous, slightly bituminous, tight to minor poor porosity, poor to fast streaming white cut.



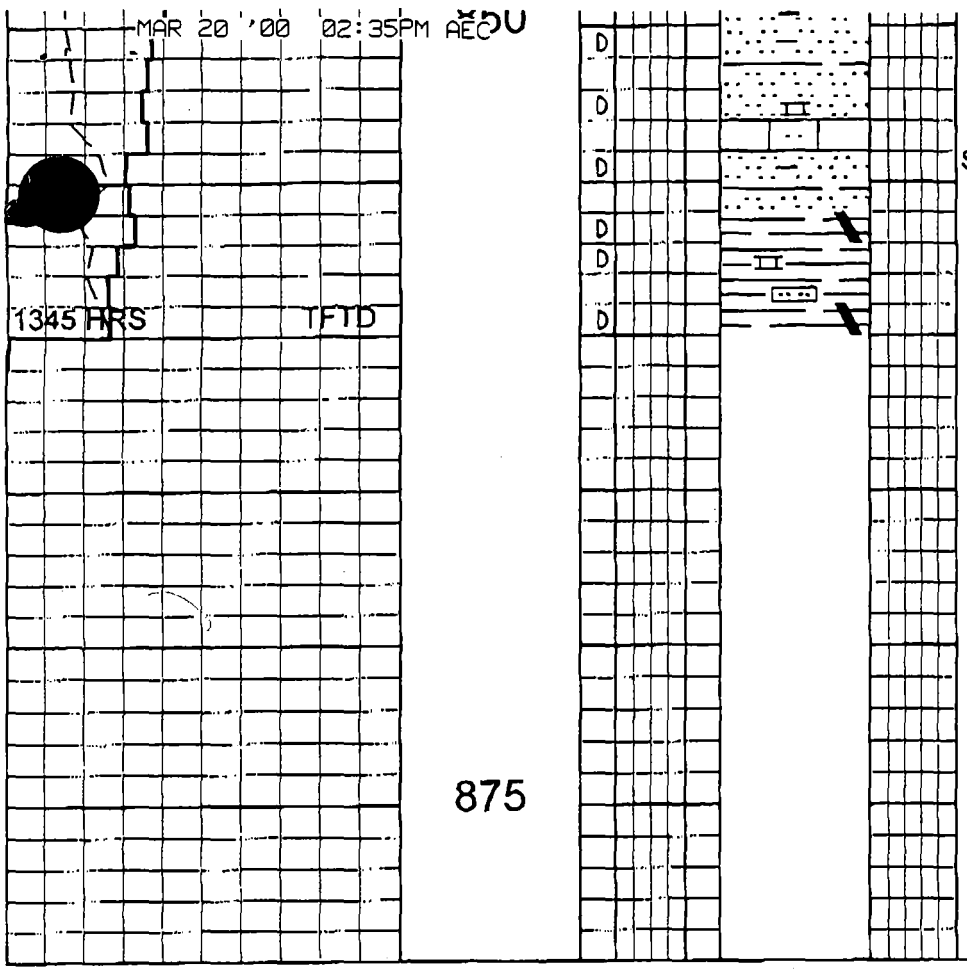
firm, bituminous;

LIMESTONE - medium to dark brown, calcilutite to fine calcarenite, micrite to biomicrite, mudstone to wackestone, minor fossil debris, slightly bituminous, tight, fast white cut, ? shows.

Limestone with Shale interbeds:
LIMESTONE - light to medium brown, calcarenite, biopelmicrite, wackestone to packstone, fossil debris, slightly dolomitic, silty in part, slightly argillaceous, tight, white cut, ? shows;
SHALE - dark grey to black, blocky, silty, highly calcareous, bituminous.

LIMESTONE - light to medium brown to brown grey, calcarenite to calcrudite, biopelmicrite, wackestone to packstone to rudstone, stromatoporoids, fossil debris, slightly dolomitic, silty, silt conent increasing downward, argillaceous in part, tight, ? shows.

Limestone with Siltstone interbeds & Shale laminae:
LIMESTONE - light to medium grey brown to brown grey, calcilutite to fine calcarenite, micrite to biomicrite, mudstone to wackestone, argillaceous, silty to highly silty grading to Siltstone in part, tight to minor poor (<3%) chalky porosity, trace fracture porosity, minor pyrobitumen in pores, fast streaming white cut.



Limestone in part, argillaceous, argillaceous, micaceous, trace disseminated pyrite, dead oil stain, fast white streaming cut;

SHALE - dark grey to black, blocky, highly calcareous grading to Marlstone, firm, silty, micromicaceus, bituminous.