ASR - CORE - DRIP - SOTTOSUOLO

EDISON

LOG MULTIPLO
CODOGNO 1DIR

Log n. 3712

Gruppo n. Superfi. Geologica Prov.: Cremona Cod. Ist. n. 1003 Data di esecuzione: 12/06/2002

Sondatore: ASR - CORE - DRIP - SOTTOSUOLO
Cantiere: Codogno
Data: 4 - Superficie - 1 - 1 - 1

MASTER LOG

Well : Codogno 1 dir

Scala 1:1000

(di regolo in metri)

OPEN HOLE SIZE	CASING SIZE
26" da 0 a 30 m	20" da 0 a 30 m
12 1/4" da 1030 m a	13 3/8" da 1030 m a
8 1/2" da 2100 m a	9 5/8" da 1317 m

MUD

WELL DATA	
Company name: Edison s.p.a.	
Well: Codogno 1 dir	
Field: Cavone	
Country: Italy	
Perm.Elev.: Codogno	
Region: Lombardia	
Well Coordinates: 45° 08' 56.461" N Lat.	
	9° 42' 24.24" Ed.Rif.Monte
RT - Elevation: 42 m	
RT - Elevation: 6.7 m	
Spud-in date: 28/07/08	
TD depth: 2100	
Completion: 23/08/08	
Drilling perf. date: 1/08/08	
Drilling contractor: Trofarotto s.p.a	
Rig name: Nara W 1000	
GEOLOGICAL SAMPLING	
Depth: 0 - 2100 m	10 - 30
Cuttings:	30 - 1317
Cores:	
Sidewall Cores:	
Sampling rate:	10 m: from 0m to 1030m
	5 m: from 1030 m to 1317 m
	2 m: from 1317 m to 1700 m
	1 m: from 1700 m to 2100 m
	2 m: from 2100 m to TD

ABBREVIATIONS AND SYMBOLS	
SG: Sieve Bag	
DS: Diamond Core	
SC: Sidewall Core Bit	
CB: Core Bit	
RB: Roller Bit	
TB: Tubularbit	
DHM: Downhole Motor	
RPM: Revolutions per minute	
WOB: Weight on Bit	
SPM: Strokes	
TG: Total Flow Area	
NZ: No nozzle	
PR: Pump Rate	
SR: Survey	
PP: Pump Pressure	
TQ: Torque	
Rop: Rate of Penetration	
Wob: Weight on Bit	
Rpm: Rotary Speed	
Tq: Torque	
Spp: Standpipe Pressure	
Spm: Strokes per Minute	
Flow: Flow Rate	
Pump Pressure	
Mud Density	
Mud Viscosity	
Mud Temperature	

LITOLOGY SYMBOLS			
Gravel	Limestone	Dolomite	Coquina
Conglomerate	Dolomitic Limestone	Chalk	Coal
Sandstone	Marl	Gypsum	Anhydrite
Siltstone	Argillaceous Limestone	Salt	Igneous Rock
Shale	Sandy Limestone	Chert	Metamorphic Rock
Clay	Shale	Coral	Fossiliferous Limestone
Clay Clay	Calcareous Shale	Fossiliferous Limestone	Fossiliferous Shale
	Organic Shale	Reef/Bioherm Limestone	Fossiliferous Clay
	Chert	Fossiliferous Limestone	Fossiliferous Chert
	Clay Shale	Clay Dolomite	Clay Chert

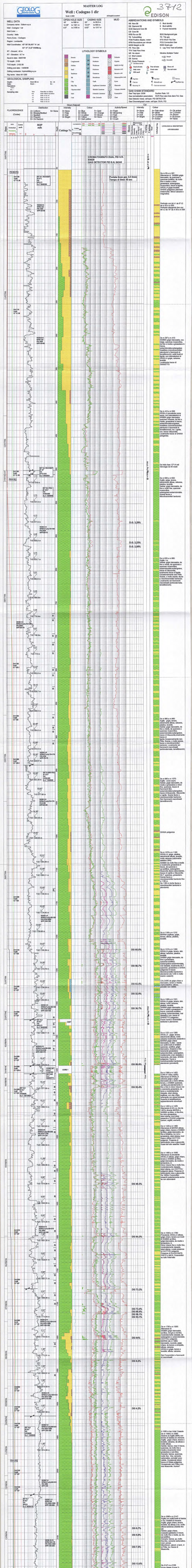
Grain Shape	Roundness	Sorting
Spherical	Rounded	Well Sorted
Subspherical	Subrounded	Moderately Sorted
Subangular	Angular	Poorly Sorted
Angular	Very Angular	

Cement	Porosity	Permeability
Calcareous	Vuggy	Fracture
Siliceous	Intergranular	Intergranular
Dolomitic	Intergranular Dissolution	Fracture Dissolution
Argillaceous	Fracture	Vuggy
Pyritic	Fracture Dissolution	
Anhydritic	Vuggy	
Gypsum	Intergranular Dissolution	
Dissolution		

Fluorescence	Distribution	Cut Stain	Cut Fluor	Cut Color	Residue Stain	Residue Fluor	Residue Color
(Codes)	0= Uniform	0= None	0= None	0= Dull	0= None	0= None	0= Pale yellow
	1= Patchy/Spotted	1= Spotted	1= Dull	1= Bright	1= Spotted	1= Dull	1= Yellow
	2= Spotted	2= Quick	2= Bright	2= Yellow	2= Quick	2= Bright	2= Orange
	3= Pin Spotted	3= Slow	3= Slow	3= Orange	3= Slow	3= Slow	3= Brown
	4= Streaming	4= Slow Streaming	4= Slow Streaming	4= Brown	4= Streaming	4= Streaming	4= Green
	5= Cut Surface	5= Cut Surface	5= Cut Surface	5= Green	5= Cut Surface	5= Cut Surface	5= Cut Surface

Cut Fluor	Cut Color	Residue Fluor	Residue Color
0= None	0= Pale yellow	0= None	0= Pale yellow
1= Dull	1= Yellow	1= Dull	1= Yellow
2= Bright	2= Orange	2= Bright	2= Orange
3= Slow	3= Brown	3= Slow	3= Brown
4= Slow Streaming	4= Green	4= Streaming	4= Green
5= Cut Surface	5= Cut Surface	5= Cut Surface	5= Cut Surface

Depth	Lithology	Cuttings %	Cores	Sidewall Cores	Rop min/m	Wob	Rpm	Tq	Spp	Spm	Flow	Pump Pressure	Mud Density	Mud Viscosity	Mud Temperature	Fluorescence	Cut Stain	Cut Fluor	Cut Color	Residue Stain	Residue Fluor	Residue Color	Gas Chromatogram	Gas Chromatogram Scale	Lithostratigraphic Description
BOP mth.		Cuttings %	Cores	Sidewall Cores	Rop min/m	Wob	Rpm	Tq	Spp	Spm	Flow	Pump Pressure	Mud Density	Mud Viscosity	Mud Temperature	Fluorescence	Cut Stain	Cut Fluor	Cut Color	Residue Stain	Residue Fluor	Residue Color	Gas Chromatogram	Gas Chromatogram Scale	Lithostratigraphic Description



PROFONDITA' FINALE m 2100 (M.D.) m 2100.0 (V.D.)

GEOLOG General Logging

MASTER LOG

Well : Codogno 1 dir S.T.

Scale 1:1000 — All depth in meters

EDISON

37-12

WELL DATA

Company name : Edison s.p.a
Well : Codogno 1 dir S.T.
Well Code : -
Country : Italia
Perm.Conc. : Codogno
Region : Lombardia
Well Coordinates : 45° 05' 56,451" N Lat.
02° 37' 24,8" W/Mtlng.
RT - Ground : 42 m
RT - Elevation : 6.7 m
Spud-in date : 09/07/06
TD depth : 1321
TVD depth : 1279
Drilling end date : 22/08/06
Drilling contractor: Hydrodrilling s.p.a
Rig name : Mesa M 1200

OPEN HOLE SIZE / CASING SIZE / MUD

OPEN HOLE SIZE		CASING SIZE		MUD
16"	to 506 m	20"	to 50.8 m	
12.25"	to 1262.0 m	13.3/8"	to 503 m	
8.5"	to 1321.0 m	9.62"	to 1262.0 m	

ABBREVIATIONS AND SYMBOLS

NB: New Bit
DB: Diamond Bit
DCB Diamond Core Bit
CB: Core Bit
RRB Re-run Bit
PDC: Polycrystalline
TCM Positive displac. motor
RPM Revolutions per minute
WOB Weight on Bit
FB: Flow rate
TFA Total Flow Area
NR: No return
LC: Mud Losses
DS: Survey
PP: Pump Pressure
Deviation survey
Good all sides
Jolly water
DIB mud
Dip dice
Core no.
Recovery %
C: Mud density
B: Mud solidity
V: Funnel viscosity
BGG Background gas
TG: Trip gas
STG Short Trip Gas
PCG Connection Gas
SWG Swab gas
C: Lag Time Test w/Carbide
Poor all sides
Fresh water
CIB
Trip liner
Sidewall core
Core not recovered
Wireline Multiple Tester
Inrush
Successful
Heavy oil
Gas and water
Test no.
Up/Short trip

GEOLOGICAL SAMPLING

Depth: from 1290 m to 1330 m
Date: from - to -
Operators:
Mud Type:
Sampling rate: 10 m From 0m to 1000m
5 m From 1000 m to -m
2 m From -m to -m
1 m From -m to -m
0.5 m From -m to -m
0.2 m From -m to -m

LITHOLOGY SYMBOLS

Breccia, Conglomerate, Pebbles, Sand, Sandstone, Silt, Clay, Silty Clay, Claystone siltstone, Marl, Limestone, Mudstone, Wackestone, Packstone, Grainstone, Boundstone, Chalk, Amphibolite Limestone, Micritic Limestone, Dolomitic Limestone, Calc. Dolomite, Dolomite, Gypsum, Anhydrite, Metamorphic rock, Intrusive rock, Metamorphic rock, Pyrite, Glauconite, Volcanic clastic, Foraminifera, Chert

GAS CHAIN STANDARD

Gas Trap type: OGM
Gas normalization parameters: ROP=Flow rate=Mesh diam=Tot. Gas
Gas Detector meas. cell type: FID DETECTOR
Gas Chromatograph meas. cell type: DUAL FID

FLUORESCENCE (Codes)

Direct (Natural)
Distribution: A= Uniform; B= Streaks/Mottled; C= Spotted; D= Patchy; E= On fracture
Intensity: D= None; 1= Pale; 2= Dull; 3= Bright; N= None
Colour: A= Blue; B= White; C= Lt yellow; D= Yellow; E= Dark yellow

Cut
Activity/Speed: A= Flash; B= Streaming; C= Fast; D= Slow; E= Crush
Intensity: D= None; 1= Pale; 2= Dull; 3= Bright
Colour: A= Pale straw; B= Straw; C= Dk straw; D= Amber; E= Ambar
F= Dk amber; G= Lt brown; H= Brown; I= Dk brown; N= None

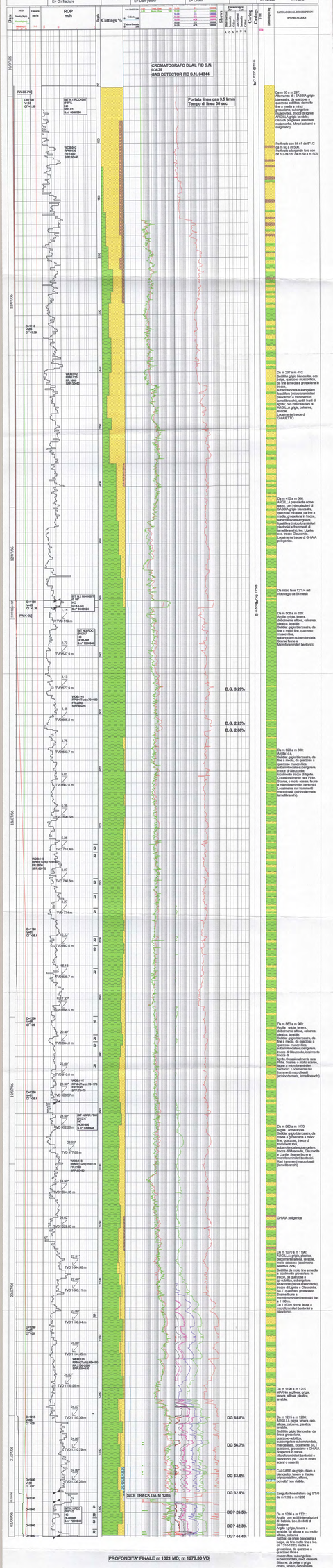



Plate — MDV Depth/Tpth — Lesser sec/ft — ROP m/h — Cuttings % — Calcimetry — Chromatograph — Shows — Dissolution — Calcite — Anhydrite — Gypsum — Celestite — Pyrite — Lithology log — LITHOLOGICAL DESCRIPTION AND REMARKS