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OIL CON. DIV.
DIST. 3

SECTION 22





WELLSITE GEOLOGISTS: Peter Falk
GAS INSTRUMENTATION: FID Chromatograph and Total Gas Detector

MUD TYPES: Air & Water Mist

TUFF

- Ck - Filter Cake
- CO - Circulate Out
- CG - Connection Gas
- DC - Depth Correction
- DS - Directional Survey
- DST - Drill Stem Test
- DTG - Down Time Gas
- LAT - Logged After Trip
- NB - New Bit
- OB - Old Bit
- NR - No Returns
- pH - pH of Mud
- PP - Pump Pressure
- RPM - Rotary Speed
- SPM - Pump Strokes
- TG - Trip Gas
- Vis - Viscosity of Mud
- WL - Water Loss of Mud
- WOB - Weight on Bit
- WT - Weight of Mud

- A - Anhydritic
- B - Bentonitic
- C - Calcareous
- CC - Carbonaceous / Coaly
- D - Dolomitic
- F - Fossiliferous
- G - Glauconitic
- O - Olivitic
- P - Pyritic
- S - Siliceous

-  - Core
-  - DST
-  - Desorption Can
-  - Slide

| Company: Phillips Petroleum Company | | | | | | | | | | Well: San Juan 32-7 *205 | | | | | | | | | |
|-------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| DRILL RATE | | | | | TOTAL GAS UNITS | | | | | C1 - C4 PPM | | | | | DESCRIPTIONS / COMMENTS | | | | |
| ROP | | | | | 1 UNIT GAS = 100 PPM Hydrocarbons | | | | | | | | | | VERTICAL SCALE: 5" = 100' | | | | |
| Minutes Per Foot | | | | | TOTAL GAS 500 | | | | | 0 METHANE 5000 | | | | | | | | | |
| 0 2.5 5 7.5 10 | | | | | C1/C1-C4 1.0 | | | | | 0 ETHANE 10000 | | | | | | | | | |
| | | | | | | | | | | 0 PROPANE 10000 | | | | | | | | | |
| | | | | | | | | | | 0 BUTANE 10000 | | | | | | | | | |
| | | | | | 10 Ft. sample interval Drilling with Air & Water Mist 8 3/4" Hole drilled to 3110' 7" Casing set at 3110' Bit: "3, 6 1/4", HTC, MF151P in at 3110'. | | | | | | | | | | SANDSTONE: gray brown, very fine grained, well sorted, ranges from angular to sub rounded, numerous dark carbonaceous flakes and dark lithic fragments, well cemented with calcite, tight, trace bentonite flakes, no fluorescence, no show | | | | |
| | | | | | - ONSET OF FLARED GAS 3' FLARE | | | | | WOB 4K RPM 90 PP 275 1500 CFM Air 10 Brls/hr Water 2 Gal soap/10 Brls | | | | | COAL: varies from intermediate satin (35%) to semi-bright sub vitreous (30%), some dull gray black coal (20%), minor amounts bright black vitreous (5%) seen as very thin micro-laminations within duller coal, micro-banded, good cleating with occasional intersecting cleat faces, some light brown platy calcite - evidence for closed fractures | | | | |
| | | | | | Cool periodically surging caving and running. | | | | | WOB increased to 6-8K | | | | | | | | | |
| | | | | | 336 Units | | | | | | | | | | SANDSTONE: gray brown, very fine grained, well sorted, sub angular to sub rounded, no show | | | | |
| | | | | | 337 Units | | | | | | | | | | COAL: mostly intermediate satin (65%) with some semi-bright sub vitreous (15%), some flat black to silky (15%) and very thin micro-laminations of vitreous coal (5%), blocky with numerous well developed cleat faces, occasional platy calcite, common amber seen in coals, trace microcrystalline pyrite | | | | |
| | | | | | 5' FLARE | | | | | | | | | | | | | | |
| | | | | | 348 Units | | | | | WOB 6 - 8K RPM 76 PP 275 1500 CFM Air 10 Brls/hr Water 2 Gal soap/10 Brls | | | | | COAL: mostly intermediate to semi-bright sub vitreous (70%), some gray black dull to slightly silky (20%), and minor vitreous coal (10%) seen as very thin laminae and streaks, banded, common well developed cleat faces, common microcrystalline pyrite on coal surfaces. Secondary mineralization consists of rare calcite flakes seen on cleat faces and a some observed smoky quartz crystals - one displaying well developed crystal structure - suggesting open fractures | | | | |
| | | | | | 8-10" FLARE | | | | | | | | | | | | | | |
| | | | | | COAL INTERVALS: | | | | | | | | | | SHALE: brown black to dark gray, very carbonaceous verging on a carbonaceous coal, interbedded with thin (less than 1') coal seams, platy, earthy texture | | | | |
| | | | | | 3120 - 3122 2' | | | | | | | | | | | | | | |
| | | | | | 3126 - 3133 7' | | | | | | | | | | | | | | |
| | | | | | 3137 - 3143 6' | | | | | | | | | | | | | | |
| | | | | | 3165 - 3180 15' | | | | | | | | | | | | | | |
| | | | | | 3198 - 3215 17' | | | | | | | | | | | | | | |
| | | | | | 3237 - 3238 1' | | | | | | | | | | | | | | |
| | | | | | TOTAL COAL 48' | | | | | | | | | | | | | | |