Hilcorp Energy Company

Current Schematic

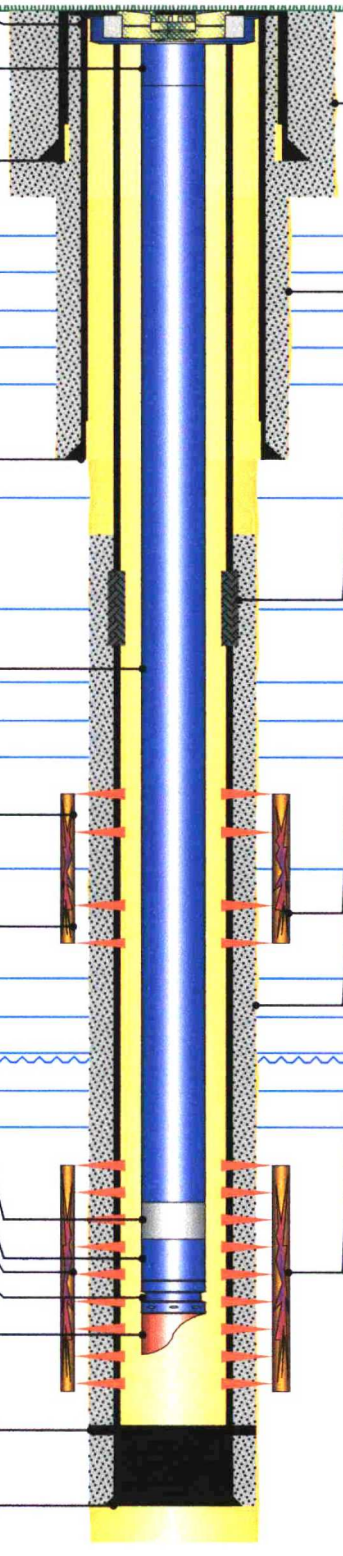
Well Name: SULLIVAN GAS COM C #1E

API / UWI	Surface Legal Location	Field Name	Route	State/Province	Well Configuration Type
3004523568	T29N-R10W-S28	Basin Dakota	0705	New Mexico	Vertical

Ground Elevation (ft)	Original KB/RT Elevation (ft)	KB-Ground Distance (ft)	KB-Casing Flange Distance (ft)	KB-Tubing Hanger Distance (ft)
5,511.00	5,524.00	13.00		

Vertical, Original Hole, 5/20/2019 3:11:55 PM

MD (ftKB)	TVD (ftKB)	Vertical schematic (actual)
13.1		Tubing Hanger; 7 1/16 in; 50.00 lb/ft; 13.00 ftKB; 14.00 ftKB
14.1		Tubing; 2 3/8 in; 4.70 lb/ft; J-55; 14.00 ftKB; 44.81 ftKB
44.9		
314.0		
315.0		1; Surface; 8 5/8 in; 7.92 in; 13.00 ftKB; 315.00 ftKB
317.9		
609.9		OJO ALAMO (final)
759.8		KIRTLAND (final)
1,422.9		FRUITLAND (final)
1,794.0		PICTURED CLIFFS (final)
1,880.9		LEWIS (final)
2,185.0		
2,186.0		2; Intermediate; 7 in; 6.46 in; 13.00 ftKB; 2,186.00 ftKB
2,423.9		HUERFANITO BENTONITE (final)
2,606.0		
2,665.0		
2,772.0		CHACRA (final)
2,825.1		
3,428.1		Tubing; 2 3/8 in; 4.70 lb/ft; J-55; 44.81 ftKB; 6,330.64 ftKB
3,484.9		CLIFF HOUSE (final)
3,529.9		MENEFEE (final)
3,873.0		
4,077.1		PERF - MENEFEE; 3,873.00-4,077.00; 4/22/2019
4,094.2		POINT LOOKOUT (final)
4,098.1		
4,412.1		PERF - POINT LOOKOUT; 4,098.00-4,412.00; 4/22/2019
4,479.0		MANCOS (final)
4,594.2		(MV LEGAL BASE) (final)
5,323.2		UPPER GALLUP (final)
6,111.9		GREENHORN (final)
6,180.1		GRANEROS (DAKOTA LEGAL TOP) (final)
6,299.9		Tubing Pup Joint; 2 3/8 in; 4.70 lb/ft; J-55; 6,330.64 ftKB; 6,332.64 ftKB
6,330.7		Tubing; 2 3/8 in; 4.70 lb/ft; J-55; 6,332.64 ftKB; 6,364.24 ftKB
6,332.7		Perforated; 6,300.00-6,422.00; 11/21/1979
6,364.2		Pump Seating Nipple; 2 3/8 in; 6,364.24 ftKB; 6,365.10 ftKB
6,365.2		Mule Shoe/XCK; 2 3/8 in; 6,365.10 ftKB; 6,366.20 ftKB
6,366.1		
6,421.9		
6,504.9		PBTD; 6,505.00
6,506.9		
6,507.9		3; Production; 4 1/2 in; 0.00 in; 13.00 ftKB; 6,508.00 ftKB
6,509.8		



Surface Casing Cement; 13.00-315.00; 10/4/1979

Intermediate Casing Cement; 13.00-2,186.00; 10/7/1979

Cement Squeeze; 2,665.00-2,825.00; 4/18/2019; RIG UP DRAKE ENERGY SERVICES PRESSURE TEST EQUIPMENT TO 2K.RUN INJECTION TEST WITH 15 BBLS OF WATER AT 2.5 BBLS PER MINUTE AT 600 PSI.SHUT DOWN.BATCH MIX CEMENT.PUMP 470 SX OF CLASS G 15.8# CEMENT.AT 40 BBLS AWAY WE CAUGHT PRESSURE.PUMPED JOB AT 1.2 BBLS PER MINUTE AT 900 - 1000 PSI.WENT TO DISPLACMENT.PUMPED 10 BBLS AT 1 BBL PER MINUTE AND 950 PSI.SHUT PUMPS DOWN.STING OUT OF CEMENT RETAINER AT 1100 PSI.REVERSE OUT 40 BBLS OF WATER WITH 1.5 BBLS OF CEMENT BACK.SHUT DOWN AND RIG DOWN DRAKE ENERGY SERVICES.

DID NOT SEE ANY CEMENT TO SURFACE OUT THE INTERMEDIATE.

Hydraulic Frac; 4/30/2019; MV STIMULATION: (MEN & PLO 3,873' - 4,412')
SITP - 65 PSI.
FRAC ZONES W/ 180,071 FOAM GALS OF 70 QUALITY SLICK WATER AT 35 BPM. RAN 2,000 GALS 15% HCL ACID DURING JOB.
RAN 20 RCN BALLS FOR DIVERSION DURING JOB.
PROPPANT: 253,200 LBS. OF PREMIUM 20/40 SAND IN 2 SAND RAMPS.
TOTAL N2: 1,909,861 SCF.
FLUSH: 33 FLUID BBLS.
MAX RATE: 35.9 BPM.
AVG RATE: 32.8 BPM.
MAX PSI: 7,721 PSI.
AVG PSI: 6,420 PSI.
MAX SAND CONC: 2.5 PPG DOWNHOLE.
SHUT IN PRESSURE: 2068 PSI.
FRAC GRADIENT: .938 PSI/FT. (BASED OFF SHUT IN PRESSURE)
FLUID TO RECOVER: 1,420 TOTAL FLUID.

5 MIN SHUT IN: 1,713 PSI
10 MIN SHUT IN: 1,652 PSI
15 MIN SHUT IN: 1,612 PSI

153,500 LBS 1ST SAND RAMP. DROPPED 20 PERF PAC BALLS. SAW 4080 PSI INCREASE WHEN BALLS HIT PERFS. DURING 2ND SAND RAMP ON 2.25# BH SAND SAW PRESSURE TREND UP. DECREASED SAND TO 2# BH. CUT SAND ATTEMPTED TO BRING SAND BACK ON. PRESSURE CAME UP AGAIN.

Production Casing Cement; 2,808.00-6,508.00; 10/19/1979

X-Linked Gel; 11/27/1979; REFRAC'D DAKOTA FR/6,300'-6,422' W/89,500 GALS 40#, XL, GELLED 2% KCl WTR & 220,000 LBS 20/40 SD @ 31 BPM & 2,350 PSIG. ISIP 1,700 PSIG. 10" SIP 1,050 PSIG.

**** XTO StimTreat data ****

Top Perf (ftKB): 6300
Bottom Perf (ftKB): 6422
Top Perf TVD (ftKB):
Bottom Perf TVD (ftKB):
5 Min (psi):
10 Min (psi):
15 Min (psi):
Frac Interval TVD (ftKB):
Initial Frac Gradient:
AIR (bbl/min):
ATP (psi):
MIR (bbl/min):
SICP (psi):
Breakdown Pressure (psi):
Ball Seat ?:
Designed Water (bbl):
Total Water Pumped (bbl):
Proppant Type:
Total Proppant (lb):
Flush Volume (bbl):
% Pad (%):
Surfactant Type:
Surfactant Volume (gal):
Surfactant Average Concentration:
Bactericide Type:
Bactericide Volume (gal):
Bactericide Average Concentration:

X-Linked Gel; 11/23/1979; F. DAKOTA FR/6,300'-6,422' IN 2 STAGES AS FOLLOWS: PPD 1ST STAGE W/113,000 GALS 40#, XL, GELLED 2% KCl WTR & 286,000 LBS 20/40 SD. PRESS DECR FR/2,800 PSIG - 900 PSIG IN 5 PPA STG. DROPPED 92 BS. PPD 2ND STAGE W/87,500 GALS 40#, XL, GELLED 2% KCl WTR & 220,000 LBS 20/40 SD @ 24 BPM & 1,333 PSIG. ISIP 800 PSIG, 15" SIP 800 PSIG. MAX SD CONC 5 PPA.RAN AFTER FRAC TS TO 5,515'. FOUND FLUID MOVING UP HOLE. SICP 850 PSIG. SIBDHP 850 PSIG

**** XTO StimTreat data ****

Top Perf (ftKB): 6300
Bottom Perf (ftKB): 6422
Top Perf TVD (ftKB):
Bottom Perf TVD (ftKB):
5 Min (psi):
10 Min (psi):
15 Min (psi):
Frac Interval TVD (ftKB):
Initial Frac Gradient:
AIR (bbl/min):
ATP (psi):
MIR (bbl/min):
SICP (psi):
Breakdown Pressure (psi):
Ball Seat ?:
Designed Water (bbl):
Total Water Pumped (bbl):
Proppant Type:
Total Proppant (lb):
Flush Volume (bbl):
% Pad (%):
Surfactant Type:
Surfactant Volume (gal):
Surfactant Average Concentration:
Bactericide Type:
Bactericide Volume (gal):
Bactericide Average Concentration: