

6-20-60 • certain documents • 11/2/60

Robert J. [unclear] [unclear]



FILE NOTATIONS

Entered in N I D File ✓
 Entered On S R Sheet _____
 Location Map Pinned ✓
 Card Indexed ✓
 I W R for State or Fee Land _____

Checked by Chief D.L.
 Copy N I D to Field Office _____
 Approval Letter In Unit
 Disapproval Letter _____

COMPLETION DATA:

Date Well Completed 2-22-22

Location Inspected _____

OW _____ WW _____ TA _____

Bond released _____

05- GW X OS _____ PA _____

State of Fee Land _____

LOGS FILED

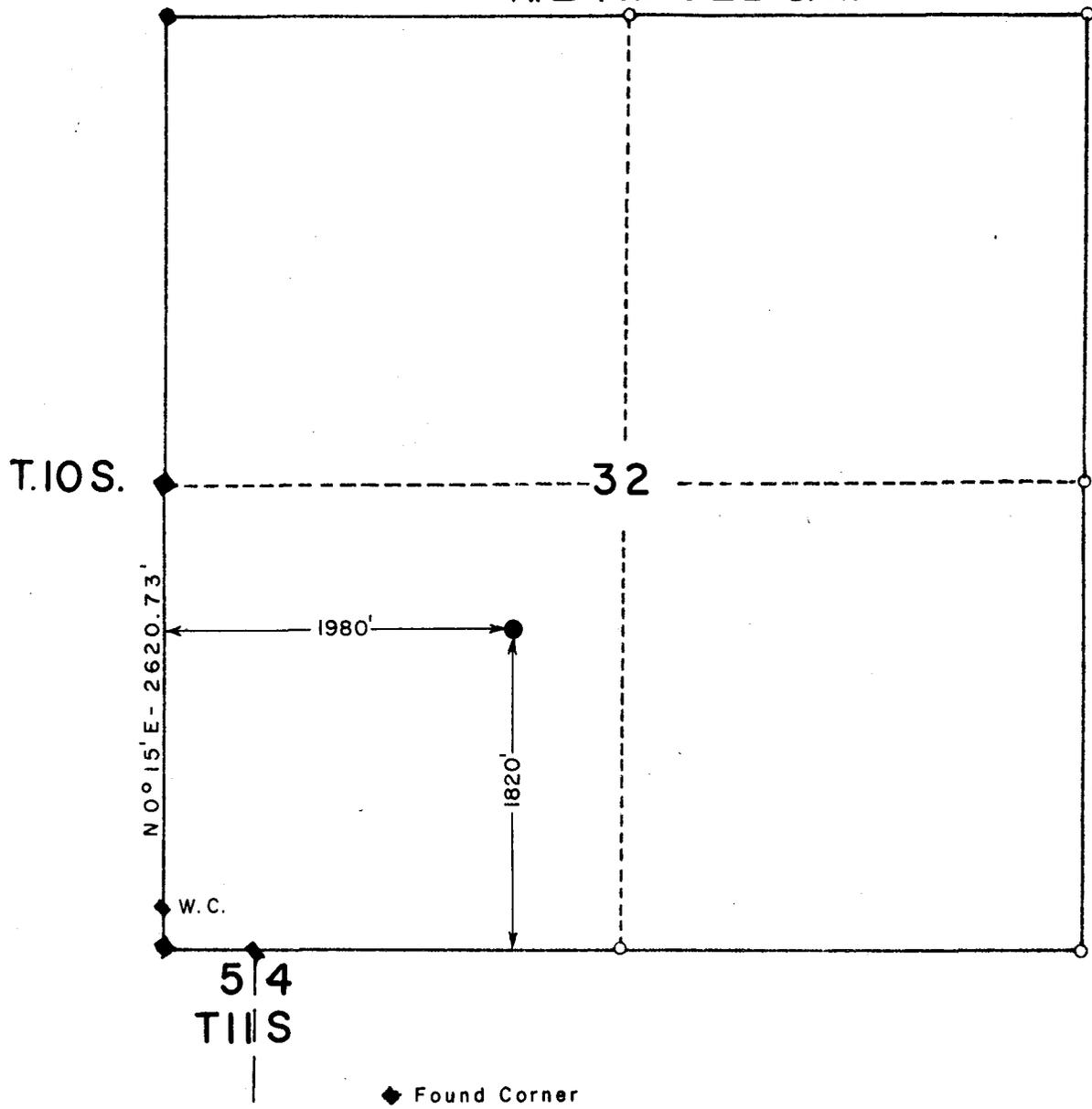
Driller's Log 2-21-22

Electric Logs (No.) 4

E _____ I _____ E-I ✓ GR _____ GR-N _____ Micro (2) ✓

Lat _____ Mi-L _____ Sonic 2 Others (1) dup

R. 24 E. SLB & M



ELEVATION DATA

GROUND
MATT
D.F.
K.B.
B.M.

54
TIIS

◆ Found Corner

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME ON NOVEMBER 17th, 18th AND 19th, 1961, AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

John A. Kroeger
JOHN A. KROEGER
UTAH REG. No. 1648



Drawn By: WWK	SHELL OIL COMPANY	Scale 1" = 1000'
Checked By: JAK		220 - 1599
Date: Nov. 21, 1961		

LOCATION OF SOUTHMAN CANYON UNIT No. 8
UNITAH COUNTY, UTAH, SEC. 32, T. 10 S. R. 24 E. SLB & M

Southman Canyon

(FIELD)

Uintah County

(COUNTY)

DRILLING REPORT

FOR PERIOD ENDING

December 27, 1961

Sec. 32

(SECTION OR LEASE)

T. 10 S., R. 24 E., SLBM

(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
			Location = 1820' from SL and 1980' from WL, Sec. 32, T. 10 S., R. 24 E., Uintah County, Utah Elevations: KB= DF= GL=
12-16	0	125	Spud 1:00 AM 12-16-61. Drill 12-1/4" hole to 125 feet. Reamed to 17-1/2" hole to a depth of 100 ft.
12-17	125	-	Reamed to 122 feet. Ran 4 joints 13-3/8" J-55 48# National casing to 122 feet. Cemented with 150 sacks regular cement plus 2% CaCl ₂ and 100 sacks regular cement. Wait on cement and nipped up.
12-18	125	488	Drilling 12-1/4" hole with water Deviation = 1/4° at 303'
12-19	488	708	Lost circulation at 708 feet
12-20	708	862	Mixed mud and drilled ahead. Mud: 8.9/115
12-21	862	1031	Drilling 12-1/4" hole with mud Reamed 191 feet of out-of-gauge hole Mud 8.8/56 Dev: 1-1/4° at 915'
12-22	1031	1274	Drilling 12-1/4" hole with mud
12-23	1274	1553	Drilling 12-1/4" hole with mud Dev: 1-1/2° at 1300'
12-24	1553	1835	Drilling 12-1/4" hole with mud
12-25	1835	2080	Drilling 12-1/4" hole with mud Mud: 8.9/36 Dev: 1-3/4° at 1750'
12-26	2080	2291	Drilling 12-1/4" hole with mud Mud: 10/50 Dev: 1-1/4° at 2260'
12-27	2291	2445	Drilling 12-1/4" hole with mud

6-20-62

CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
17-1/2"	0	122	13-3/8"	122'
12-1/4"	122	2445		
DRILL PIPE 4-1/2" XH SIZES				

Jack L. Thurber

SIGNED

Southman Canyon
 (FIELD)
Uintah, Utah
 (COUNTY)

DRILLING REPORT
 FOR PERIOD ENDING
January 1, 1962

Sec. 32
 (SECTION OR LEASE)
T. 10 S., R. 24 E.
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
12-28	2445	2617	Drilling 12-1/4" hole with mud: Mud: 9.9/44 Lost circulation (300 bbls.) at 2616-2617. Made trip, mixed new mud and lost circulation material and regained circulation. Had new water produced ahead of mud indicating a water flow zone.
12-29	2617	2750	Lost circulation after trip at 2618'. Mixed mud and lost circulation material and regained circulation. Drilled ahead to 2750 feet. Circulated from 12 noon to 6 P.M. for electric logs. Rig up for Schlumberger. Logging.
12-30	2750	-	Logging. Ran Induction-electric log and gamma ray sonic log (3' spacing) from shoe of conductor pipe (122') to TD (2750'). Ran gamma ray sonic (1' spacing) from shoe of conductor pipe to 2200'. Could not go past 220' due to bridging of the hole. Could not keep hole full of mud while logging with highest fluid level 305 feet from surface. Mixed new mud and lost circulation material and conditioned hole to run casing.
12-31	2750	-	Ran 87 joints (2762') 8-5/8" J-55, 32# casing equipped with Larkin Baffel collar and Baker down-whirler guide shoe. Used 3 centralizers. Cemented at 2750' with 400 sacks Class A cement treated with 40% Diecel, followed by 150 sacks Class A regular cement. Displaced cement with 166 barrels mud and bumped plug at 10:15 P.M. with 700 psi. Good returns to surface. Wait on cement.
1-1-62	2750	-	Nippling up.

CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
17-1/2"	0	122	13-3/8"	122'
12-1/4"	122	2750	8-5/8"	2750'
DRILL PIPE SIZES 4-1/2" XH				

Jack L. Thurber

SIGNED

Southman Canyon
 (FIELD)
 Uintah, Utah
 (COUNTY)

DRILLING REPORT
 FOR PERIOD ENDING
 January 11, 1962

Sec. 32
 (SECTION OR LEASE)
 T. 10 S., R. 24 E.
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
1/2	2750	-	Wait on cement and finish nipping up. Pick up 6-1/2" drill collars and make trip in hole. Pressure test pipe rams with 750 psi. Ok. Drill out plug. Found no cement between baffel collar and casing shoe. Annulus between 8-5/8" casing and conductor pipe producing small amount of flammable gas. Mud used to drill out plug with became gas-cut. (Mud weight less than 7.5 lbs/gal.) Cleaned mud tanks and mixed new mud. Ran line from annulus between pipe strings and flared gas away from the rig.
1/3	2750	2872	Drill out casing shoe and pressure-tested cement job. OK. Drilling 7-7/8" hole with mud. Mud: 10.7/49/5/2/10
1/4	2872	3072	Drilling 7-7/8" hole with mud. Dev: 1-1/4° @ 2954
1/5	3072	3260	Drilling 7-7/8" hole with mud. Mud: 11.4/66
1/6	3260	3406	Drilling 7-7/8" hole with mud. 12.4/59
1/7	3406	3568	Drilling 7-7/8" hole with mud. 12.2/55/4.6/2/9.5 Dev: 1° @ 3548
1/8	3568	3666	Drilling 7-7/8" hole with mud. 12.5/85/5.4/1/9.5 1/2° @ 3637
1/9	3666	3698	Core No. 1 from 3666-3680 - No Recovery. Used Christensen rubber sleeve Core barrel with Shell orientation tool. Core Head #660, OD=7-13/16" ID = 3". Rubber sleeve tore off below clamp. Drilling 7-7/8" hole.
1/10	3698	3810	Drilling 7-7/8" hole. Mud: 12.4/62/4.2/2/9.5
1/11	3810	3824	Core No. 2 3810-3824 recovered 12-8 feet. Used Christensen rubber-sleeve Core barrel with Shell orientation tool. Core Head No. Q3827 7-1/2" OD x 3" ID. Rubber sleeve tore off below stripper tube clamp when breaking off core at bottom. Coring rates 13-1/2 - 25 Min./Ft. with 8,000 lbs. and 55 rpm. Pump rate 300 gal./min. with 1000 psi. pressure at surface.

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
17-1/2	0	122	13-3/8	122
12-1/4	122	2750	8-5/8	2750
DRILL PIPE SIZES 4-1/2"				

Jack L. Thurber

SIGNED

DRILLING REPORT
 FOR PERIOD ENDING

Southman Canyon

Sec. 32

(FIELD)

(SECTION OR LEASE)

Uintah, Utah

1-21-62

T. 10 S., R. 24 E.

(COUNTY)

(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
1/12 to 1/13	3824		Drilling 7-7/8" hole with mud. Mud: 12.6/70/4.8/2/9.5
1/14	4021	4021	Drilling 7-7/8" hole with mud. Mud: 13/80/4.2/2/9.5
1/14	4021	4035	Cut Core #3 from 4021-4035, recovered 3 feet sandstone. Used Christensen rubber-sleeve core barrel with Shell Orientation Tool. Diamond Core Head No. Q 3827. 7-1/2" OD x 3" ID. Rubber sleeve tore off 1-1/2 feet below stripper tube clamp. Cored with 8,000-10,000# and 60-64 rpm. Pump rate 305 gal./min. with 1100 psi at surface.
1/15	4035	--	DST #1 from 3970-4035 feet, recovered 30 feet drilling mud and 90 feet of slightly gas-cut mud. ISIBHP 1635 psi in 90 minutes and rising; FSIBHP 1505 psi in 90 minutes and still rising; IFBHP/FFBHP 58/185 psi after 90 minutes; HP 2782/2782 psi; initial open period was 17 minutes. Tried 3 times to open any plugged perforations by bypassing packers with hydrostatic weight of mud column by opening parts in main hydraulic tool. Packers failed in third attempt. Reset packers and took final shut-in. Pressure charts revealed no plugging of perforations. Test deemed mechanically okay.
1/15 to 1/20	4035		Drilling 7-7/8" hole with mud. Dev.: 1° @ 4102 1° @ 4316
1/20		4497	Mud: 12.9/74/4.5/2/9 13.2/85/4/2/9.5
1/20	4497	--	Ran Schlumberger logs from shoe of casing at 2750' to T.D. at 4497'. Ran Induction-Electric log, Gamma Ray-Sonic with 3' spacing, Gamma Ray-Sonic with 1' spacing and microlog.
1/21	4497	--	DST #2 from 4390 to 4497'. Initial open 16 minutes, initial shut-in 1-1/2 hours, flow period 2 hours, final shut-in 2 hours. Blow: fair immediately increasing to strong. Recovery: 374 feet slightly gas-cut mud, 280 feet heavily gas cut and water cut mud, 93 feet very slightly gas cut muddy water, 93 feet muddy water. Total 840 feet (10.64 barrels). ISIBHP 2130 psi nearly stabilized; FSIBHP 2085 psi, nearly stabilized; IFBHP/FFBHP 205/464 psi; HP 3021/2935.

CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
17-1/2	0	122	13-3/8	122
12-1/4	122	2750	8-5/8	2750
7-7/8	2750	3824		

DRILL PIPE SIZES 4-1/2" XH

Jack L. Thurber

SIGNED

Southman Canyon

DRILLING REPORT

Section 32

(FIELD)

FOR PERIOD ENDING

(SECTION OR LEASE)

Uintah, Utah

2-3-62

T. 10 S., R. 24 E.

(COUNTY)

(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
1-21 to 1-28	4497	5303	Drilling 7-7/8" hole with mud. Mud: 12.9/70/4.2/2/9.5 Dev. 1° @ 4814'
1-28	5303		DST No. 3, 5230-5303. Rec. 236' gas cut mud, 308' highly gas cut, oil cut, mud cut water, 186' slightly oil cut, slightly gas cut muddy water (total = 730' or 9.08 bbls.). Gas to surface in 110 minutes, too small to measure on 1/8" orifice. Burned a 2' colorless, with trace of orange color, flame. Water salinity 25,200 ppm, NaCl equivalent. ISI BHP 2431 psi in 90 minutes, nearly stabilized. FSI BHP 2325 psi in 120 minutes, nearly stabilized. IF BHP/FF BHP 184/385 in 3 hours. HP 3530/3510 BHT 141° F. Initial open period was 15 minutes, bottom choke 5/8", top 1". Oil was greenish in color and had a high pour point. Had consistency of vaseline and floated in globules on top of the water.
1-28 to 1-30	5303	5524	Drilling 7-7/8" hole with mud.
1-31	5524		DST No. 4, 5469-5524. Rec. 35' (0.26 bbls.) gas cut mud with trace of oil film. No gas to surface. ISI BHP 415 psi in 90 minutes, still rising. FSI BHP 315 psi in 90 minutes, still rising. IF BHP/FF BHP 52/52 in 1 hour. HP 3763/3763. Initial open period was 15 minutes.
1-31 to 2-2	5524	5743	Drilling 7-7/8" hole with mud.
2-3	5743		DST No. 5, 5630-5743. Rec. 40' (0.292 bbls.) gas cut mud. Gas to surface in 55 minutes, maximum rate 8.22 MCF/D. ISI BHP 820 psi in 90 minutes, still rising sharply. FSI BHP 1205 psi in 120 minutes, starting to stabilize. IF BHP/FF BHP 100/100 psi in 2-1/2 hours. HP 3768/3768 psi. Initial open period was 15 minutes.

CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
17-1/2	0	122	13-3/8	122
12-1/4	122	2750	8-5/8	2750
7-7/8	2750	4497		
DRILL PIPE SIZES 4-1/2"				

J. L. Thurber

SIGNED

Southman Canyon
 (FIELD)
Uintah County, Utah
 (COUNTY)

DRILLING REPORT
 FOR PERIOD ENDING
2-28-62

Sec. 32
 (SECTION OR LEASE)
T 10 S, R 24 E
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
2-3 to 2-9	5743	6076	Drilling 7-7/8" hole with mud. Drilling 7-7/8" hole with mud. Mud 12.8/71/3.6/2/10. Dev. at 5952 = 1-1/4°.
2-9	6076		DST #6 from 6035 to 6076 ft.; Rec. 39 ft. (0.286 bbls.) GCM, ISI BHP 463 psi in 90 min.; still gradually rising, FSI BHP 224 psi in 90 min.; still gradually rising, IF/FF BHP 83/98 psi in 75 min., HP 4192/4078 psi, Initial open period was 15 min.; BHT = 148°F.
2-9 to 2-10	6076	6134	Drilling 7-7/8" hole with mud. Mud 12.6/68/3.6/2/10. Rig shut down from 5:30 p.m. on 2-10-62 to 10:00 a.m. on 2-13-62 due to flooding conditions on roads leading to wellsite.
2-13 to 2-19	6134	6524	Drilling 7-7/8" hole with mud. Mud 12.7/88/4/2/9.5.
2-19 to 2-26	6524	6950	Drilling 7-7/8" hole with mud using Williams Bit & Tool Co. Diamond Bit Serial No. P257.
2-26 to 2-27	6950	7016	Drilling 7-7/8" hole with mud using conventional rock bit. Drilling 7-7/8" hole with mud using conventional rock bit.
2-27 to 2-28	7016	7016	Ran Schlumberger logs from 4350 ft. to T.D. (IES, 3' GRS, 1' GRS, Microlog). Depth correction after measuring cut pipe changed T.D. to 7028 ft. Schlumberger measured 7033 ft.

END

CONDITION AT ~~RECORDING~~ END OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
17-1/2	0	122	13-3/8	122
12-1/4	122	2750	8-5/8	2750
7-7/8	2750	7028	5-1/2	7028

GRILL PIPE 4-1/2" X H
 SIZES

Contractor: W. K. ... Co.
 Drillers: G. ...
...
...
...
...

DRILLING REPORT
 FOR PERIOD ENDING

Southman Canyon
 (FIELD)
Uintah County, Utah
 (COUNTY)

Section 32
 (SECTION OR LEASE)
T. 10 S., R. 24 E.
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
2/28	7028 (TD)		Laid down drill pipe after conditioning mud.
3/1			Ran 219 joints of 5-1/2", 17#, N-80, LT & C casing with Larkin plain shoe at 7028 and float collar at 6992. Cemented with 400 sacks regular cement plus 4% gel. Bumped top rubber plug at 10:25 A.M., 3-1-62. Flanged up.
3/2			Found plug at 6991. Ran 2-3/8" slim-hole tubing with beveled collar on bottom joint to 6991.
3/3			Circulated out mud with clear water. Pulled up and landed tubing at 6434. Installed Christmas tree. Released rig 6:00 P.M., 3-3-62.

Contractor: R. L. Manning Company
 Contract Foreman: P. Sharp
 Drillers: C. Middleton
 D. McAdams
 G. Mulholland
 P. Volk
 C. Ellidge
 Shell Drilling Foremen: R. Standifer
 C. Christiansen

CONDITION AT END OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
17-1/2	0	122	13-3/8	122
12-1/4	122	2750	8-5/8	2750
7-7/8	2750	7028	5-1/2	7028

DRILL PIPE SIZES 4 1/2" X 4

Southman Canyon
 (FIELD)
Uintah County, Utah
 (COUNTY)

DRILLING REPORT
 FOR PERIOD ENDING
3-14-62

Section 32
 (SECTION OR LEASE)
T. 10 S., R. 24 E.
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS																														
	FROM	TO																															
3-8		7028 (TD)	Pressure tested Christmas tree with one Dowell Allison pumper. Tree leaked during test. Tightened up and tested to 6,000 psi for 28 minutes, O.K.																														
3-9			Ran McCullough Gamma Ray Collar Locator Log. Perforated 5-1/2" casing with two 13/32" jet holes, 180° opposed, at each of the following Schlumberger depths: 6570, 6593, 6633, 6700, 6736, 6912 and 6947. Used McCullough 1-11/16" O.D. through-tubing Mac-Jet perforating gun. No surface pressure after perforating.																														
3-14			Reverse circulated water from tubing and annulus by pumping 140 barrels of 3% hydrochloric acid down annulus with the tubing open. Circulated at 9 B/M with casing pressure of 2400 psi. Acid-sand frac well down tubing and annulus using the limited entry technique. Treatment consisted of 72,000 gallons 3% Hcl (prepared by blending 7500 gal. 28% Hcl in 5 frac tanks), 60,000 lb. 20-40 mesh sand, 350 lb. 12-20 mesh walnut shells, 1400 lb. Dowell J-98 at 20 lb./1000 gallons, and 5880 gallons flush water. Broke down the formations by pumping down the annulus with four Allison's, leaving the tubing closed in until the treating fluid and sand were entering the formation at a constant rate and pressure. Breakdown pressure was 4950 psi (casing) and 3750 psi (tubing). Following are the pressure readings taken prior to putting the tubing Allison on stream. The J-98 was added at 20#/1000 gal. from the moment of breakdown.																														
			<table border="1"> <thead> <tr> <th><u>Casing Pressure</u></th> <th><u>Tubing Pressure</u></th> <th><u>Rate</u></th> <th><u>Barrels of Fluid Pumped</u></th> <th><u>Δ P Down Annulus</u></th> </tr> </thead> <tbody> <tr> <td>4500 psi</td> <td>3100 psi</td> <td>19 B/M</td> <td>50 bbls.</td> <td>1400</td> </tr> <tr> <td>4100</td> <td>2800</td> <td>22</td> <td>60</td> <td>1300</td> </tr> <tr> <td>3950</td> <td>2700</td> <td>23</td> <td>80</td> <td>1250</td> </tr> <tr> <td>3850</td> <td>2750</td> <td>24</td> <td>120</td> <td>1100</td> </tr> <tr> <td>3700</td> <td>2800</td> <td>25</td> <td>142</td> <td>900</td> </tr> </tbody> </table>	<u>Casing Pressure</u>	<u>Tubing Pressure</u>	<u>Rate</u>	<u>Barrels of Fluid Pumped</u>	<u>Δ P Down Annulus</u>	4500 psi	3100 psi	19 B/M	50 bbls.	1400	4100	2800	22	60	1300	3950	2700	23	80	1250	3850	2750	24	120	1100	3700	2800	25	142	900
<u>Casing Pressure</u>	<u>Tubing Pressure</u>	<u>Rate</u>	<u>Barrels of Fluid Pumped</u>	<u>Δ P Down Annulus</u>																													
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3850	2750	24	120	1100																													
3700	2800	25	142	900																													
			The tubing pump was then placed on stream and the rate gradually rose to 32-1/2 B/M.																														

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE SIZES				

DRILLING REPORT
 FOR PERIOD ENDING

Section 32
 (SECTION OR LEASE)

Southman Canyon
 (FIELD)

3-15-62

Uintah County, Utah
 (COUNTY)

T. 10 S., R. 24 E.
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS																																																																						
	FROM	TO																																																																							
3-14		7028 (TD)	<p>The average rate for the entire job, including the breakdown period and flush, was 29.1 B/M with an average treating pressure of approximately 4100 psi on the casing. The maximum treating pressure (with J-98) was 4100 psi (casing) and 4200 psi (tubing) at 30-1/2 B/M. The minimum treating pressure (with J-98) was 3900 psi (casing) and 4000 (tubing) at 32 B/M. The J-98 was stopped after 50,000 gallons had been pumped and the rate dropped to 28-1/2 B/M with pressures of 4250 psi (casing) and 4500 psi (tubing) after 83% of the tubing and annulus had been cleared of the J-98. Due to a flange leak at the wellhead the J-98 was put back on stream to reduce the wellhead pressure and the full effects of the experiment were never realized since the tubing and annulus were not completely cleared of J-98.</p> <p>The sand was started at 1/2#/gal. and increased to 1#/gal. after 8 minutes. The average sand concentration for the job was 0.99#/gal. The walnut shells were tailed in after the sand at a concentration of 0.115#/gal. Clean water was used to displace the walnut shells and acid water down to the bottom of the tubing at 6434' and the well shut-in. The initial shut-in pressure was 2200 psi which declined to 1825 psi after 2-1/2 hours. The well was left shut-in overnight.</p>																																																																						
3-15			<p>Shut-in pressure, 1500 psi on tubing and casing. Started flowing well at 10:24 A.M. with a heater in line between well and separator.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th><u>Time</u></th> <th><u>Heater Choke</u></th> <th><u>Tubing Choke</u></th> <th><u>Tubing Pressure</u></th> <th><u>Casing Pressure</u></th> <th><u>Gas Rate MCF/Day</u></th> <th><u>Water Rate B/D</u></th> </tr> </thead> <tbody> <tr> <td>10:30 AM</td> <td>1/8"</td> <td>1/2"</td> <td>1420</td> <td>1460</td> <td>0</td> <td>360</td> </tr> <tr> <td>10:36 AM</td> <td></td> <td></td> <td colspan="4">Shut-in to fix leak at heater.</td> </tr> <tr> <td>11:26 AM</td> <td></td> <td></td> <td colspan="4">Open well back up.</td> </tr> <tr> <td>12:00 Noon</td> <td>1/8"</td> <td>1/2"</td> <td>1400</td> <td></td> <td>0</td> <td>360</td> </tr> <tr> <td>1:00 PM</td> <td>"</td> <td>"</td> <td>1370</td> <td></td> <td>0</td> <td>"</td> </tr> <tr> <td>1:30 PM</td> <td>"</td> <td>"</td> <td>1350</td> <td></td> <td>TSTM</td> <td>"</td> </tr> <tr> <td>2:30 PM</td> <td>"</td> <td>"</td> <td>1320</td> <td></td> <td>"</td> <td>"</td> </tr> <tr> <td>3:30 PM</td> <td>"</td> <td>"</td> <td>1300</td> <td></td> <td>"</td> <td>"</td> </tr> <tr> <td>4:30 PM</td> <td>"</td> <td>"</td> <td>1260</td> <td>1280</td> <td>"</td> <td>"</td> </tr> </tbody> </table>	<u>Time</u>	<u>Heater Choke</u>	<u>Tubing Choke</u>	<u>Tubing Pressure</u>	<u>Casing Pressure</u>	<u>Gas Rate MCF/Day</u>	<u>Water Rate B/D</u>	10:30 AM	1/8"	1/2"	1420	1460	0	360	10:36 AM			Shut-in to fix leak at heater.				11:26 AM			Open well back up.				12:00 Noon	1/8"	1/2"	1400		0	360	1:00 PM	"	"	1370		0	"	1:30 PM	"	"	1350		TSTM	"	2:30 PM	"	"	1320		"	"	3:30 PM	"	"	1300		"	"	4:30 PM	"	"	1260	1280	"	"
<u>Time</u>	<u>Heater Choke</u>	<u>Tubing Choke</u>	<u>Tubing Pressure</u>	<u>Casing Pressure</u>	<u>Gas Rate MCF/Day</u>	<u>Water Rate B/D</u>																																																																			
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CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE SIZES				

Jack L. Thurber

SIGNED

Southman Canyon
 (FIELD)
 Uintah County, Utah
 (COUNTY)

DRILLING REPORT
 FOR PERIOD ENDING
 3-17-62

Section 32
 (SECTION OR LEASE)
 T. 10 S., R. 24 E.
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS	Heater Choke	Tubing Choke	Tubing Pressure	Casing Pressure	Gas Rate MCF/Day	Water Rate B/D
	FROM	TO							
3-15 (Cont'd.)		7028 (TD)	Time						
			5:30 PM	1/8"	1/2"	1240		TSTM	360
			6:00	"	"	1200		"	"
			8:20	"	"	1120		"	"
			11:10	"	"	1040		"	"
3-16			1:35 AM	"	"	960		"	"
			4:30	"	"	875		"	"
			7:20	"	"	810		"	"
			9:00	"	"	810	840	"	"
			10:00	"	"	825	825	"	"
			10:00	1/4"	"			38	"
			10:15	"	"	725	750	"	"
			11:00	"	"	640	575	"	840
			11:25	"	"	580	515	"	720
			11:26	3/8"	"			"	"
			11:53	"	"	360	320	43	1080
			1:40 PM	"	"	250	35	"	768
			2:09	1/2"	"	225	30	"	"
			2:20	"	"	190	25	"	"
			2:45	"	"	180	90	"	888
			3:08	"	1"			182	"
			3:35	"	"	215	120	"	"
			3:55	"	"			117	960
			4:09	1-5/32"	"	210	120	"	"
			4:10	"	"	190	115	"	"
			4:45	"	"	170	100	144	1080
			5:00	"	"	150	100	"	960
			6:00	"	"	100	100	"	840
			7:00	"	1-1/2"	90		105	650*
			8:00	"	"	50		"	500
			9:00	"	"	25		"	360
			10:00	"	"	25		82	360
			11:00	"	"	20		"	340
3-17			12:00 Midnight	"	"	15		"	310
			1:00 AM	"	"	15		"	"
			2:00	"	"	25		"	"
			3:00	"	"	20		"	"

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE SIZES				

* Well started producing approximately 5 B/D of greenish-yellow high pour-point oil at 7:00 PM, 3-16-62.

Jack L. Thurber

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DRILLING REPORT
 FOR PERIOD ENDING

3-21-62

Section 32

(SECTION OR LEASE)

T. 10 S., R. 24 E.

(TOWNSHIP OR RANCHO)

Southman Canyon

(FIELD)

Uintah County, Utah

(COUNTY)

DAY	DEPTHS		REMARKS	Heater Choke	Tubing Choke	Tubing Pressure	Casing Pressure	Gas Rate MCF/Day	Water Rate B/D	
	FROM	TO								
3-17 (Contd.)	7028 (TD)		Time							
			4:00 AM	1-5/32"	1-1/2"	15		82	310	
			5:00	"	"	15		"	290	
			6:00	"	"	15		"	290	
			7:00	"	"	15	580	32	240	
			8:00	"	"	25	600	"	310	
			9:00	"	"	75	680	215	575	
			10:00	"	"	75	680	"	625	
			11:00	"	"	110	590	"	480	
			11:15	"	1"			"	455	
			12:00 Noon	"	"	100	513	193	310	
			1:00 PM	"	"	60	460	168	170	
			1:30	"	"	25	475	TSTM	No water, making clean oil.	
			1:38	"	"	0	500		Well died after making 1/2 bbl. clean oil.	
			1:50	"					Put casing pressure down tubing, tubing 450, casing 450.	
			1:53	"					Open back up. Got a gas surge which died off. No fluids.	
			1:54	"	"	140	475		0	
			1:57	"	"	0	475		0	
			2:00	Shut-in well. Total fluids out - 1045 bbls.						
3-18	Moving in workover rig to swab.									
3-19	Flowed and swabbed 257 bbls. fluid including 10-15 barrels green, high pour-point oil. Tubing pressure 0-100 psi, casing pressure 500-700 psi.									
3-20	Flowed and swabbed 112-1/2 bbls. fluid including 4 barrels oil. Gas TSTM. Checked fill at 6961 ft. Maximum casing pressure 600 psi, minimum casing pressure 470 psi, maximum tubing pressure 100 psi.									
3-21	Flowed and swabbed 137 bbls. fluid including 7 bbls. oil. Gas TSTM. Casing pressure 400-600 psi, tubing pressure 0-200 psi.									

CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE SIZES				

Jack L. Thurber

SIGNED

DRILLING REPORT
 FOR PERIOD ENDING

3-24-62

Section 32

(SECTION OR LEASE)

T. 10 S., R. 24 E.

(TOWNSHIP OR RANCHO)

Southman Canyon

(FIELD)

Uintah County, Utah

(COUNTY)

DAY	DEPTHS		REMARKS
	FROM	TO	
3-22		7028 (TD)	Flowed and swabbed 47-1/2 barrels water and oil. Circulated water and started out of hole with tubing. Well began to flow. Ran plug in tubing and stripped tubing out of hole. Total fluid out - 1600 bbls.
3-22			Repaired 5-1/2" casing flange with plastic. Ran McCullough junk basket and found fill at 6942 ft. Ran 4.662" gauge ring through casing to top of fill. Ran and set Baker 2B cast iron bridge plug, Model NC EJ400NCM in 5-1/2" casing at 6550'. Pressure tested bridge plug to 6000 psi for 15 minutes, OK. Reran tubing and hung at 6088 ft. Pressure tested Christmas tree to 6000 psi for 15 minutes, OK.
3-24			Released completion rig at 12:00 noon, 3-24-62. Contractor: Barker Well Service Vernal, Utah Operations suspended pending satisfactory road conditions.

CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE SIZES				

Jack L. Thurber

SIGNED

DRILLING REPORT
 FOR PERIOD ENDING

Southman Canyon
 (FIELD)
Uintah County, Utah
 (COUNTY)

Sec. 32
 (SECTION OR LEASE)
T. 10 S., R. 24 E.
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
			<u>Recompletion at Southman Canyon Unit No. 8</u>
4-9-62	6550	PBTD	Attempted to run McCullough Gamma-Ray Collar log. Tool would not go through tubing at 6055 ft.
4-10			Moved in workover rig. Pulled tubing and replaced bad joints at 456 ft. and 6055 ft. Reran tubing to 6088 ft. Ran McCullough Gamma-Ray Collar log. Tagged plug at 6542 ft. Logged from TD to 6050 ft.
4-11			Perforated 5-1/2" casing with two 13/32" jets, 180° opposed, at each of the following Schlumberger depths: 6187, 6198, 6248, 6258, 6294, 6444, 6494. Released workover rig. No pressure on well-head after perforating. Displaced water from annulus and tubing with 133 barrels of 3% acid by pumping down the annulus and reversing the water out through the tubing. Sand-acid fractured the formations by pumping down the annulus and tubing with 5 Allison's. Used 60,000 lb. 20-40 mesh sand, 75,000 gallons of 3% HCl, 350 lb. 12-20 mesh walnut shells, 1400 lb. Dowell J-98, and 133 barrels flush water. No distinct breakdown pressure. Average treating rate including breakdown and flush was 32-1/2 B/M. Maximum pressure with J-98 was casing 4100 psi, tubing 4250 psi, at 32 B/M. Minimum pressure with J-98 was casing 3800 psi, tubing 3850 psi, at 34-1/2 B/M. Maximum pressure without J-98 was casing 4250 psi, tubing 4600 psi, at 31 B/M. (This was after cutting the J-98 midway through the job and pumping 198 barrels of plain acid water.) Tailed in walnut shells behind the sand at end of treatment, followed by 133 barrels of clean water to displace walnut shells into formation. ISIP = 2400 psi.

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE SIZES				

DRILLING REPORT
 FOR PERIOD ENDING

Southman Canyon
 (FIELD)
Uintah County, Utah
 (COUNTY)

Sec. 32
 (SECTION OR LEASE)
T. 10 S., R. 24 E.
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS					Gas Rate MCF/Day	Remarks	
	FROM	TO	Well-Head Time	Heater Choke	Tubing Press.	Casing Press.	Water Rate B/D			
Testing Operations at Southman Canyon Unit No. 8										
4-11	--	--	12:20PM	-	-	2400	2400	-	-	ISIP after frac.
			2:34	-	-	1850	1900	-	-	
			2:35	21/64	8/64	-	-	-	-	Open up well
			2:45	21/64	8/64	1810	1875	-	-	Prod. load
			2:50	1"	8/64	1790	1875	-	-	water from
			3:35	1"	8/64	1690	1810	360	-	frac job
			4:35	1"	8/64	1600	1740	456	TSTM	Gas non-inflammable
			5:35	1"	8/64	1525	1675	384	TSTM	
			6:35	1"	8/64	1450	1580	384	TSTM	68 bbls water out
			7:30	1"	8/64	1390	1510	336	TSTM	
			8:30	1"	8/64	1310	1460	384	TSTM	
			9:30	1"	8/64	1250	1420	360	TSTM	
			10:30	1"	8/64	1200	1325	240	TSTM	
			11:30	1"	8/64	1150	1275	192	TSTM	
4-12			12:30AM	1"	8/64	1100	1225	264	TSTM	
			1:30	1"	8/64	1050	1175	384	TSTM	
			2:30	1"	8/64	1000	1125	144	TSTM	
			3:30	1"	8/64	975	1100	312	TSTM	
			4:30	1"	8/64	950	1075	264	TSTM	
			5:30	1"	8/64	950	1050	216	TSTM	
			6:30	1"	8/64	925	1025	264	TSTM	
			7:30	1"	8/64	900	1000	72(?)	TSTM	
			8:30	1"	8/64	900	975	264	TSTM	
			9:30	1"	8/64	875	930	240	TSTM	Flam. gas.
			10:30	1"	8/64	850	850	240	TSTM	New csg. gauge.
			10:35	1"	1/4					37.5
			11:30	1"	1/4	690	690	768		37.5
			12:30	1"	1/4	590	590	768		37.5
			1:30	1"	1/4	550	550	792		37.5
			2:30	1"	1/4	540	540	552		37.5
			3:00	1"	3/8	520	510	624		44.0

CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE SIZES				

DRILLING REPORT
 FOR PERIOD ENDING

Southman Canyon
 (FIELD)
Uintah County, Utah
 (COUNTY)

Sec. 32
 (SECTION OR LEASE)
T. 10 S., R. 24 E.
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS							
	FROM	TO	Testing Operations at Southman Canyon Unit No. 8 (Contd.)							
			Time	Well-Head Choke	Heater Choke	Tubing Press.	Casing Press.	Water Rate B/D	Gas Rate MCF/Day	Remarks
4-12			3:03	1"	3/8	450	480	624	86.6	
			3:15	1"	3/8	375	390	624	53.1	
			3:30	1"	3/8	420	440	624	68.5	
			4:00	1"	3/8	400	410	744	68.5	
			4:30	1"	3/8	390	400	744	81.0	
			5:00	1"	3/8	370	390	768	75.5	
			6:00	1"	3/8	400	400	744	107.0	
			7:00	1"	3/8	425	400	816	134.0	
			8:00	1"	3/8	400	450	720	134.0	527 bbls. water out.
			9:00	1"	3/8	375	500	720	134.0	
4-13			10:00			350	550	624	144.5	
			11:00		3/8	350	525	648	144.5	
			12:00		3/8	350	700	624	155.0	
			1:00AM		3/8	350	750	624	155.0	
			2:00		3/8	350	800	552	167.0	
			3:00		3/8	350	900	576	167.0	
			4:00		3/8	350	950	552	272.5	
			5:00		3/8	450	950	552	272.5	
			6:00		3/8	500	900	432	308.0	
			7:00		3/8	450	900	456	308.0	
			8:00		3/8	450	850	408	381.5	
			9:00		3/8	400	800	408	381.5	
			10:00		1/2	410	790	336	381.5	
			10:30			300	725	-	594.0	
		11:00			300	690	480	594.0		
		12:00PM			250	600	432	594.0		
		12:30			225	580	432	520.0		
		1:00			250	550	360	520.0		
		1:30			210	530	-	473.0		
		12:00Mid.			100	400	215	375.0	1008 bbls. water out.	

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE SIZES				

DRILLING REPORT
 FOR PERIOD ENDING

Southman Canyon
 (FIELD)
Uintah, Utah
 (COUNTY)

32
 (SECTION OR LEASE)
T. 10 S., R. 24 E.
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS							
	FROM	TO								
<u>Testing Operations at Southman Canyon Unit No. 8 (Contd.)</u>										
			<u>Time</u>	<u>Wellhead Choke</u>	<u>Heater Choke</u>	<u>Tubing Press.</u>	<u>Casing Press.</u>	<u>Water Rate B/D</u>	<u>Gas Rate MCF/D</u>	<u>Remarks</u>
4-14			1:00 AM	1"	1/2"	100	400	192	315	
			12:00 Noon			100	350	168	290	1095 bbls. water out
4-15			3:00 PM		1/2"	50	300		210	
			12:00 Mid.			50	300	96	205	1275 bbls. water out
4-16			1:00 AM			50	300		205	
			12:00 Noon			50	300	120	182	1322 bbls. water out
			1:30 PM			50	300			Shut in open well
4-17			8:30 AM		8/64"	1280	650	0		
			10:00 AM			1150	650	0	315	
			4:00 PM		1/2"	125	500	264	380	1338 bbls. water out
4-18			3:00 PM			25	275	72	178	
			12:00 Mid.			25	275	72	178	1504 bbls. water out
4-19			1:00 AM			50	275	72	178	
			2:00 PM			50	290	72	175	1545 bbls. water out
4-20			2:00 PM			40	275		170	1609 bbls. water out
4-21			8:30 AM			1200	1175			Shut in open well
			3:00 PM		1"	25	290	84	190	1641 bbls. water out
4-22					1"	25	250	70	170	1711 bbls. water out
4-23					1"	25	250	52	170	
4-24					1"	25	250	50	170	

CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE SIZES				

DRILLING REPORT
 FOR PERIOD ENDING

Southman Canyon

(FIELD)

Uintah, Utah

(COUNTY)

32

(SECTION OR LEASE)

T. 10 S., R. 24 E.

(TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS																																																								
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<u>Time</u>	<u>Wellhead Choke</u>	<u>Heater Choke</u>	<u>Tubing Press.</u>	<u>Casing Press.</u>	<u>Water Rate B/D</u>	<u>Gas Rate MCF/D</u>	<u>Remarks</u>																																																				
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CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE SIZES				

Southman Canyon

DRILLING REPORT

FOR PERIOD ENDING

32

(FIELD)
 Uintah, Utah
 (COUNTY)

5/29/62

(SECTION OR LEASE)
 T. 10 S., R. 24 E.
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
1962			
5/21			Recompletion Report. Attempted to run temperature survey. Tool stopped because of wax. Opened well approximately one minute and blew out wax. Ran temperature survey to top of fill at 6464'. No results from survey. Flowed well until 3:00 P.M. Shut in TP 300, CP 500.
5/22			After 18 hours shut in TP and CP was 2200 psi. Opened well on a 32/64" choke. Pressures declined to 250# TP, 750# CP. Flowing.
5/23			Moved in and rigged up workover rig. Set choke assembly in tubing and stripped tubing out while flowing through annulus. Ran McCullough junk basket and gauge ring on wire line to 6436' where it stopped. Worked back to 6350' where rope socket pulled out leaving basket and gauge ring in hole. Ran Baker Model N cast iron bridge plug on wire line and set at 6274'.
5/24			Ran tubing and hung at 6151'. Installed xmas tree. Pulled tubing plug and started well flowing through tubing on a 1" choke. TP 50#, CP 50#, rate 100 MCF/D.
5/25			Flowed 25 B/D water, 100 MCF/D, TP 20, CP 60.
5/26			Flowed 23 B/D water, 90 MCF/D.
5/27			Flowed 20 B/D water, 80 MCF/D.
5/28			Circulated water and killed well. Pulled tubing. Set Baker cast iron bridge plug at 6142'. Pressure tested casing and plug to 6000 psi for 15 minutes. OK. Installed xmas tree and pressure tested to 6000 psi. Ran collar log. Perforated two 0.40" holes at each of following depths: 5649, 5716, 5813, 5964, 6063.
5/29			Fractured interval 5649-6063 using limited entry acid-sand frac treatment with 41,000 lbs. 20-40 sand, 250 lbs. 12-20 walnut shells, 58,000 gallons 3% HCl. Did not use Dowell J-98. Total load 1500 barrels. Breakdown pressure was 5050 psi. Injection rate 25-28 barrels/minute at 3950-4500 psi. Instant shut in pressure 2150 psi. After 50 minutes, pressure was 1400 psi. Opened well at 2:30 P.M. on a 8/64" choke. In 3-1/2 hours had flowed 50 barrels water. Pressures at 6:00 P.M., TP 610, CP 730.
CONDITION AT BEGINNING OF PERIOD			
HOLE			CASING SIZE
SIZE	FROM	TO	DEPTH SET
DRILL PIPE SIZES			

DRILLING REPORT
 FOR PERIOD ENDING

Southman Canyon

(FIELD)

32

(SECTION OR LEASE)

Uintah, Utah

(COUNTY)

6/20/62

T. 10 S., R. 24 E.
 (TOWNSHIP OR RANCHO)

DAY	DEPTHS		REMARKS
	FROM	TO	
1962			
5/30			Flowed on 24/64" choke, rate 410 MCF/D, 432 B/D water, TP 350, CP 790, cumulative 404 barrels water out. Gas broke in at 9:00 A.M. and gradually increased throughout day. Tubing and casing pressures increasing.
5/31			Flowed 500 MCF/D, 48 B/D water, TP 200, CP 500, on a 24/64" choke. 517 barrels load produced.
6/1			Flowed 480 MCF/D, 54 B/D water, on a 24/64" choke, TP 200, CP 500, 560 barrels load produced.
6/2 thru 6/20			Testing. Rates declining from 480 MCF/D to 303 MCF/D. Tubing pressures dropping from 200-100 psi. Casing pressures dropping from 500-370 psi. Total load produced 1024 barrels. Operations suspended until gathering lines are in.

CONDITION AT BEGINNING OF PERIOD				
HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE SIZES				

R.D.



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake City, Utah

Lease No. ML 3216 State Lease

Unit _____

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	<input checked="" type="checkbox"/>
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....	<u>DST 1, 2, 3, 4</u>	<input checked="" type="checkbox"/>

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

February 2, 1962

Well No. 8 is located 1820 ft. from N line and 1980 ft. from W line of sec. 32

SW 32 10S 21E S.L.B.M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

Southern Canyon Uintah Utah
(Field) (County or Subdivision) (State or Territory)

kelly bushing

The elevation of the ~~casings~~ above sea level is 5619 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

- Spudded 12-16-61
- 12-18-61 Set 13-3/8 at 122'
- 12-31-61 Ran and cemented 8-5/8", 32#, J-55 at 2750 with 550 sacks cement. Good returns to surface.
- 1-15-62 DST #1, 3970-4035, 10 15 min., ISI 1-1/2 hrs. Flow 1-1/2 hr., FSI 1-1/2 hr., faint blow, dead in 10 min. Rec. 120' sl. G.C.M. ISIP/FSIP 1635/1505, IPP/FFP 58/185, HP 2782/2782.
- 1-22-62 DST #2, 4390-4497, 10 15 min., ISI 1-1/2 hr. Flow 2 hrs., FSI 2 hrs. Strong air blow, no gas to surface. Rec. 840' sl. G.C.M.W. ISIP/FSIP 2130/2085, IPP/FFP 205/464, HP 3021/2935.

(Over)

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Shell Oil Company

Address Post Office Box 1200

Farmington, New Mexico

Original Signed By
W. M. MARSHALL

By W. M. Marshall

Title Division Exploitation Engineer

R-2

	32	
X		

(SUBMIT IN TRIPPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake City, Utah
Lease No. ML3216 State Lease
Unit Southman Canyon

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....		SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	X	SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

March 6, 1962

Southman Canyon Unit

Well No. 8 is located 1820 ft. from S line and 1980 ft. from W line of sec. 32

SW 32 (1/4 Sec. and Sec. No.) 10S (Twp.) 24E (Range) SLM (Meridian)
Southman Canyon (Field) Uintah (County or Subdivision) Utah (State or Territory)

The elevation of the Kelly Bushing ~~casings~~ above sea level is 5619 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Status: ID 7028; PHID 6991; Casing 13-3/8 @ 122', 8-5/8 @ 2750, 5-1/2 @ 7028; Tubing 2-3/8 @ 6434.

Proposed Work:

1. Pressure test wellhead and casing with 6000 psi for 15 min.
2. Perforate 14 holes in interval 6870 to 6947.
3. Fracture down tubing and annals simultaneously using 70,000 gallons of 3% HCL, 1400 lbs. Dowell J-98, 60,000 lbs. of 20-40 sand and 350 lbs. 12-20 walnut shells. Pressure not to exceed 5500 psi at surface.
4. Place well on test. Obtain rates and pressures.
5. Shut in.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Shell Oil Company

Address P. O. Box 1200

Farmington, New Mexico

Original signed by
By B. W. SHEPARD
For W. H. Marshall
Title Division Exploitation Engineer

N-100

(SUBMIT IN TRIPLICATE)

Land Office ML 3216 State Lease
Lease No. Southman Canyon
Unit _____

	32		
	X		

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....		SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....		SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....			
Notice of Recompletion	X		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

March 21, 19 62

Well No. 8 is located 1820 ft. from [N] line and 1980 ft. from [W] line of sec. 32

SW 32 10S 24E S.L.B.M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Southman Canyon Hintah Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the ~~shallow bushing~~ shallow bushing above sea level is 5619 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Status: T.D. 7028', PBD 6991'; Casing 13-3/8 at 122', 8-5/8 at 2750', 5-1/2 at 7028; Perfs. Two 0.40" at each of the following depths: 6570, 6633, 6700, 6593, 6736, 6912 and 6947. Non-commercial Production.

Proposed Work:

1. Kill well with water and pull tubing.
2. Check bottom with wire line and set bridge plug at 6550'± and pressure test to 6000 psi.
3. Hang tubing at 6100'± and install tree. Pressure test to 6000 psi.
4. Perforate two 13/32" jet holes facing 180° at the following depths: 6187, 6198, 6248, 6258, 6294, 6444 and 6494.

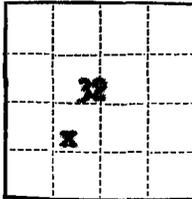
(over)

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Shell Oil Company

Address Post Office Box 1200
Farmington, New Mexico

Original Signed By
W. M. MARSHALL
By
W. M. Marshall
Title Division Exploitation Engineer



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake City, Utah

Lease No. ML3216 State Lease

Unit Southman Canyon

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....		SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	X	SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

May 21, 1962

Well No. 8 is located 1820 ft. from N line and 1980 ft. from W line of sec. 32

32 10E 24E S.L.B.M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Southman Canyon Wintah Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the ~~surface~~ ^{kelly bushing} above sea level is 5619 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Status: TD 7028; PSTD 6991; Casing 13-3/8 at 122', 8-5/8 at 2750', 5-1/2 at 7028'.
1 1/2 Perfs at 6570-6947. Plug at 6550, 1 1/2 Perfs at 6187-6494. Tbg at 6088.

Proposed Work:

1. Pull tubing.
2. Run and set a Baker Model "K" cast iron bridge plug at 6275.
3. Test Perfs above bridge plug for formation water.
4. Kill well and pull tubing.
5. Run and set a retrievable plug to 6150'.
6. Perf two .40 inch holes at each of the following depths; 5649, 5716, 5813, 5964, 6063.
7. Free down tubing and casing using 50,000 gals of 3% HCl, 45,000 lbs 20-40 mesh sand and 250 lbs 12-20 mesh walnut shells. Surface pressure not to exceed 5500 psi.
8. Test and obtain IP. Shut in.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Shell Oil Company

Address Post Office Box 1200
Farmington, New Mexico

Original Signed By
W. M. MARSHALL

By _____

Title Division Exploitation Engineer

Copy H. D.

Salt Lake City, Utah

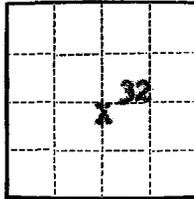
Land Office

ML 3216 State Lease

Lease No.

Southman Canyon

Unit



(SUBMIT IN TRIPLICATE)
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....
NOTICE OF INTENTION TO ABANDON WELL.....	

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

August 17, 1962

Well No. 8 is located 1820 ft. from N 1/4 S line and 1980 ft. from E 1/4 W line of sec. 32
NE SW 32 10 S. 24 E. S.L.B.M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Southman Canyon Uintah Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 5619 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Status: T.D. 7028, PSTD 6991; casing 13-3/8" at 122', 8-5/8" at 2750', 5-1/2" at 7028', 14 Perfs. at 6570-6947, plug at 6550, 14 perfs. 6187-6494. Plug at 6142, 10 perfs. 5649-6063.

Shooting & Free Works:

1. Set bridge plug at 6142. Pressure tested casing and plug to 6000 psi.
2. Ran Collar log. Perforated 2 holes at each of the following depths: 5649, 5716, 5813, 5964, 6063.
3. Fractured interval with 41,000 lbs. 20-40 sand, 250 lbs. 12-20 walnut shells, 56,000 gals. 3% HCl. Total load 1500 bbls. Breakdown pressure was 5050 psi. Injection rate 25-28 B/M at 3950-4500'. Instant shut in pressure 2150 psi. After 50 minutes 1400 psi.
(Continued over)

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Shell Oil Company

Address Post Office Box 1200
Farmington, New Mexico

Original signed by
H. D. ENGLISH

By H. D. English
Title Division Exploitation Engineer

Date January 11, 1962

SHELL OIL COMPANY

WEEK ENDING January 11, 1962

CORE RECORD

CORE FROM 3810 TO 3824AREA OR FIELD Southman CanyonCORES EXAMINED BY ThurberCOMPANY Shell Oil CompanyLEASE AND WELL NO Southman Canyon U

NO.	FROM	TO	RECOVERED	FORMATIONAL, STRUCTURAL AND PROBABLE PRODUCTIVITY DESCRIPTION OF CORE	SYMBOL	OBSERVED DIP	CORE INDICATIONS	
							OIL-GAS	CORE OR DITCH
2	3810	3824	12.8'	<u>Sandstone with interbeds of shale and siltstone</u>				
	3810	3811 $\frac{1}{2}$		1-1/2' <u>Sand</u> , light grey - light grey green, very fine, calcareous			None	None
	3811 $\frac{1}{2}$	3812		1/2' <u>Shale</u> , brown-grey green, non-calcareous			Observed	None
	3812	3813 $\frac{1}{4}$		1- $\frac{1}{4}$ ' <u>Siltstone</u> , grey-dark grey, very sandy, grading from sand, slightly calcareous.				
	3813 $\frac{1}{4}$	3815		1-3/4' <u>Sand</u> , light grey-tan, very fine-fine, calcareous, vari-colored grains, with abundant brown grains and black inclusive				
	3815	3817		2' <u>Sand</u> , light grey green, very fine-silty, grading to silty from sand above				
	3817	3818		1' <u>Sand</u> , light grey - light grey green, very fine-fine, calcareous, vari-colored grains, with bottom 2" grading into grey <u>siltstone</u>				
	3818	3821		3' <u>Sand</u> , grey, very fine-silty, grading to siltstone with interbeds of siltstone. Bottom 4" is grey-brown <u>shale</u>				
	3821	3822 $\frac{1}{2}$		1- $\frac{1}{2}$ ' <u>Siltstone</u> , grey, calcareous, very sandy				
	3822 $\frac{1}{2}$	3822.7		0.2' <u>Sand</u> , white-grey, calcareous, very fine, occasionally fine, vari-colored grains				
	3822.7	3822.8		0.1' <u>Siltstone</u> , grey, calcareous				
	<p><u>Notes</u></p> <p>Core cut for grain orientation purposes using Shell orientation tool in conjunction with Christensen rubber-sleeve core barrel. Diamond Core head No. Q3827; Size 7-$\frac{1}{2}$" OD x 3" ID. Coring rates: 13-$\frac{1}{2}$ - 25 Min./Ft. Core left intact and was not sampled for microscopic examination.</p>							

SYMBOLS: C-CLAY OR SHALE (SAND 0-5%). 1-CLAY OR SHALE WITH SAND STREAKS (SAND 5-25%). 2-CLAY OR SHALE AND SAND (SAND 25-60%). 3-SAND WITH SHALE STREAKS (SAND 60-90%). S-SAND (90-100%).
NOTE: SHOW FLUID CONTENT AS IN STANDARD LEGEND.

SHELL OIL COMPANY

WEEK ENDING 1-14-62

CORE FROM 4021 TO 4035

CORES EXAMINED BY Thurber

CORE RECORD

AREA OR FIELD Southman Canyon

COMPANY Shell Oil Company

LEASE AND WELL NO. Southman Canyon 8

NO.	FROM	TO	RECOVERED	FORMATIONAL, STRUCTURAL AND PROBABLE PRODUCTIVITY DESCRIPTION OF CORE	SYMBOL	OBSERVED DIP	CORE INDICATIONS
							OIL-GAS
							CORE OR DITCH
3	4021	4035	3 ft.	<u>Sand</u> , white-light gray, fine grained, occasionally very fine, slightly calcareous, sub-angular-angular, fair cementing, fair sorting, vari-colored grains with abundant black inclusions, X porosity.		None	Faint gas odor. No fluorescence or cut fluorescence. Mud inside rubber sleeve was highly gas-cut.

Notes: Core cut for grain orientation purposes using Shell orientation tool and Christensen rubber sleeve core barrel. Diamond Core Head No. Q3827 Size 7-1/2" OD x 3" ID

(Submit in Triplicate)

SUPERVISOR, OIL AND GAS OPERATIONS:

DESIGNATION OF AGENT

The undersigned is, on the records of the Geological Survey, Unit Operator under the Southman Canyon Unit Agreement, dated May 19, 1952, No. 14-08-001-345, approved November 7, 1952,

and hereby designates

NAME: Shell Oil Company
ADDRESS: 1008 West 6th Street, Los Angeles 54, California

as its agent, with full authority to act in its behalf in complying with the terms of the unit agreement and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Oil and Gas Operating Regulations with respect to:

Northeast quarter Southwest quarter (NE/4 SW/4) of Section 32
Township 10 South, Range 24 East, S1M

It is understood that this designation of agent does not relieve the unit operator of responsibility for compliance with the terms of the unit agreement and the Oil and Gas Operating Regulations. It is also understood that this designation of agent does not constitute an assignment of any interest under the unit agreement or any lease committed thereto.

In case of default on the part of the designated agent, the unit operator will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The unit operator agrees promptly to notify the oil and gas supervisor of any change in the designated agent.

This designation of agent is deemed to be temporary and in no manner a permanent arrangement.

This designation of agent is limited to field operations and does not cover administrative action requiring unit operator's specific authorization.

EL PASO NATURAL GAS COMPANY

NOV 30 1961

Date

By:

Unit Operator

Sam Smith

Attorney-in-Fact



SHELL OIL COMPANY

Post Office Box 1200
Farmington, New Mexico

Subject: Southman Canyon Unit No. 8
Southman Canyon Unit
Uintah County, Utah

State of Utah
Oil and Gas Conservation Commission
310 Newhouse Building
Salt Lake City, Utah

Attention Mr. Bob Schmidt

Gentlemen:

Attached is a photocopy of the Designation of Agent furnished us by El Paso Natural Gas Company dated November 30, 1961, covering the drillsite for Southman Canyon Unit No. 8.

Very truly yours,

R. R. Robison
Division Production Manager

WMM:GC

Attachment

17

DITCH SAMPLES

Examined by Thurber 2400 to 2550
_____ to _____Well Southman Canyon Unit #8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
2400	2430	100	<u>Shale</u> , brown, dark brown, and dark red brown dolomitic oil shale, silty. <u>No fluorescence, very pale milky cut fluorescence.</u>	
2430	2440	40	<u>Shale</u> , as above.	
		60	<u>Shale</u> , light-medium gray, slightly calcareous, soft-firm.	
2440	2470	80	<u>Shale</u> , light-medium gray, as above.	
		10	<u>Shale</u> , brown, as above.	
		10	<u>Sandstone</u> , white-light gray, very fine-fine, calcareous, sub-rounded, fair sorted, occasional mica and glauconite.	
2470	2480	90	<u>Shale</u> , light-medium gray, as above.	
		10	<u>Siltstone</u> , white-grey, calcareous, sandy in part.	
2480	2490	60	<u>Shale</u> , as above.	
		40	<u>Siltstone</u> , as above.	
2490	2500	90	<u>Shale</u> , light-medium brown, firm-hard, slightly calcareous, dolomitic in part.	
		10	<u>Shale</u> , light-medium gray, as above.	
2500	2520	20	<u>Shale</u> , light-medium grey, soft, calcareous.	<u>50% yellow-butterscotch colored fluorescence, fair-poor blue-white cut fluorescence.</u>
		20	<u>Shale</u> , tan-cream, soft, calcareous.	
		60	<u>Shale</u> , brown-dark reddish brown, firm-hard, dolomitic, silty in part, carbonaceous.	
2520	2530	10	<u>Shale</u> , light-medium gray, as above.	<u>30% fluorescence and cut as above.</u>
		90	<u>Shale</u> , light-dark brown, silty in part, calcareous, grading to limestone.	
2530	2540	50	<u>Shale</u> , very dark red brown, non-calcareous, carbonaceous.	<u>10% fluorescence and cut as above.</u>
		30	<u>Shale</u> , light-dark brown, as above.	
		10	<u>Shale</u> , light-medium gray, as above.	
		10	<u>Dolomite</u> , tan, I III VFA, hard.	
2540	2550	70	<u>Shale</u> , light-medium brown, calcareous in part, soft-firm.	<u>40% fluorescence and cut as above.</u>
		20	<u>Shale</u> , very dark red brown, as above.	
		10	<u>Dolomite</u> , as above.	

DITCH SAMPLES

Examined by Thurber 2550 to 2650
_____ to _____Well Southman Canyon Unit #8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
2550	2560	80	<u>Shale</u> , medium-dark brown, firm-hard.	<u>80% tan dull fluorescence, faint milky cut fluorescence.</u>
		10	<u>Shale</u> , light-medium gray, as above.	
		10	<u>Limestone</u> , tan, very argillaceous, soft.	
2560	2570	70	<u>Shale</u> , light-medium grey, calcareous in part, soft, laminated.	<u>80% fluorescence and cut as above.</u>
		20	<u>Shale</u> , medium-dark brown, as above.	
		10	<u>Dolomite</u> , tan, hard, I-VFA.	
2570	2590	70	<u>Shale</u> , as above.	<u>50% fluorescence and cut as above.</u>
		20	<u>Dolomite</u> , as above.	
		10	<u>Sandstone</u> , white, very fine, sub-rounded, occasionally glauconitic, calcareous.	
2570	2590	70	<u>Shale</u> , as above.	<u>50% fluorescence and cut as above.</u>
		20	<u>Dolomite</u> , as above.	
		10	<u>Sandstone</u> , white, very fine, sub-rounded, occasionally glauconitic, calcareous.	
2590	2600	30	<u>Dolomite</u> , tan-medium brown, I-VFA.	<u>60% fluorescence and cut as above.</u>
		30	<u>Shale</u> , light tan, very limy, very soft.	
		40	<u>Shale</u> , brown-dark brown, firm, occasionally calcareous.	
2600	2620		No samples due to lost circulation.	
2620	2630	30	<u>Dolomite</u> , brown-buff, I-VFA, massive.	<u>60% tan dull fluorescence. Very poor, very faint milky cut fluorescence.</u>
		20	<u>Limestone</u> , white, chalky and <u>limestone</u> , buff, oolitic (loose oolites) and <u>limestone</u> , buff, I-VFA, ostracodal.	
		10	<u>Siltstone</u> , gray, calcareous, grading to sandstone.	
		40	<u>Shale</u> , gray brown, tan, and brown, dolomitic.	
Note: Samples by-passing shaver after losing circulation. Samples of poor quality. Abundant cavings.				
2630	2640	20	<u>Limestone</u> , buff, oolitic and <u>limestone</u> , I-VFA, as above.	<u>70% fluorescence and cut as above.</u>
		10	<u>Dolomite</u> , as above.	
		30	<u>Sandstone</u> , light-medium gray, very fine, calcareous, grading from siltstone.	
		30	<u>Shale</u> , as above, occasional tan with brown laminations.	
10	<u>Tuff</u> (?), buff, hard, occasionally very sandy with yellow-orange stain (oxidation?).			
2640	2650	30	<u>Siltstone</u> , dark reddish brown, argillaceous, hard.	<u>60% fluorescence and cut as above.</u>
		10	<u>Limestone</u> , as above.	
		20	<u>Sandstone</u> , as above.	
		10	<u>Siltstone</u> (?), quartzitic, heavy mica.	
		10	<u>Tuff</u> , as above.	
20	<u>Shale</u> , as above.			

DITCH SAMPLES

Examined by Thurber 2650 to 2740
_____ to _____Well Southman Canyon Unit #8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
2650	2670		Depth correction after measuring pipe.	
2670	2690	30	<u>Limestone</u> , buff-tan, dolomitic, ostracods, oolites.	<u>20% fluorescence cut as above.</u>
		20	<u>Siltstone</u> , dark reddish brown, as above.	
		20	<u>Sandstone</u> , as above, occasional black dead oil stain.	
		20	<u>Shale</u> , as above, occasional brown and tan laminations and mica.	
		10	<u>Siltstone</u> , gray-brown-gray, slightly calcareous, grading from <u>sandstone</u> .	
		Tr.	<u>Tuff (?)</u> , as above.	
2690	2700	30	<u>Sandstone</u> , white, fine-medium, clean, friable, poorly cemented, slightly calcareous, poor sorting, sub-angular, occasionally glauconitic, occasional green and salmon sand grains, with brown-black oil stain. <u>No fluorescence, good streaming yellowish milky cut fluorescence.</u>	
		20	<u>Siltstone</u> , gray, as above.	<u>20% fluorescence and cut as above.</u>
		20	<u>Siltstone</u> , dark reddish brown, as above.	
		10	<u>Limestone</u> , buff-tan, as above.	
		20	<u>Shale</u> , as above.	
2700	2710	60	<u>Siltstone</u> , reddish brown-brown.	<u>20% fluorescence and cut as above.</u>
		20	<u>Sandstone</u> , as above. <u>No fluorescence, and cut as above.</u>	
		10	<u>Limestone</u> , as above.	
		10	<u>Shale</u> , as above.	
2710	2720	20	<u>Sandstone</u> , as above, no fluorescence, <u>cut fluorescence as above.</u>	<u>20% brown fluorescence and cut as above.</u>
		20	<u>Sandstone</u> , light gray-gray green, calcareous, silty, very fine, glauconitic.	
		20	<u>Shale</u> , gray brown-gray green, slightly calcareous, very silty.	
		30	<u>Siltstone</u> , reddish brown, as above.	
		10	<u>Limestone</u> , as above	
			Note: Samples still poor. By-passing shaker.	
2720	2730		As above, with trace <u>shale</u> , green, hard, non-calcareous.	
2730	2740	10	<u>Limestone</u> , white, II-VFA, chalky, (marl?) with occasional very fine sand grains.	<u>5% yellow fluorescence, faint milky cut fluorescence.</u>
		10	<u>Limestone</u> , buff, tan, as above.	
		20	<u>Siltstone</u> , reddish brown, as above.	<u>20% brown fluorescence and cut as above.</u>
		20	<u>Sandstone</u> , white, as above.	
		10	<u>Sandstone</u> , light gray-gray green, as above.	
		30	<u>Shale</u> , as above.	

DITCH SAMPLES

Examined by Thurber 2740 to 2800
_____ to _____Well. Southman Canyon Unit #8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
2740	2750	20	<u>Limestone</u> , buff, ostracods, oolites, <u>with yellow fluorescence, faint milky cut fluorescence.</u>	
		30	<u>Siltstone</u> , dark red, as above.	
		20	<u>Sandstone</u> , white, as above.	
		10	<u>Sandstone</u> , light gray-gray green, as above.	
		20	<u>Shale</u> , as above.	
		Tr.	<u>Limestone</u> , white, as above.	
		Tr.	<u>Limestone</u> , ostracodal, light-dark gray, <u>with brown-black oil stain, yellow fluorescence, good streaming milky cut fluorescence.</u>	
2750	2760	30	<u>Siltstone</u> , light cream, calcareous with fine-medium, fine-tight sand grains, soft-friable.	<u>10% dull tan and yellow fluorescence, weak milky cut fluorescence.</u>
		20	<u>Siltstone</u> , gray green, calcareous.	
		20	<u>Siltstone</u> , brown-dark reddish brown, slightly calcareous, hard.	
		20	<u>Sandstone</u> , light gray, calcareous, very fine, silty, grading to <u>siltstone</u> .	
		10	<u>Sandstone</u> , loose medium-coarse, well rounded grains.	
2760	2770	30	<u>Siltstone</u> , gray green, as above.	<u>10% fluorescence and cut as above.</u>
		10	<u>Siltstone</u> , light cream, as above.	
		30	<u>Siltstone</u> , brown-dark reddish brown, as above.	
		20	<u>Shale</u> , tan-light brown, slightly calcareous in part, hard, occasional mica.	
		10	<u>Sandstone</u> , light gray, as above.	
		Tr.	<u>Sandstone</u> , loose, as above.	
2770	2780	30	<u>Sandstone</u> , light gray, very fine-fine, slightly calcareous, silty in part, glauconitic, fair sorted, sub-angular-sub-rounded.	<u>20% fluorescence and cut as above.</u>
		20	<u>Siltstone</u> , gray green, as above.	
		20	<u>Shale</u> , tan-light brown, as above.	
		20	<u>Siltstone</u> , brown-dark reddish brown, as above.	
		10	<u>Dolomite</u> , brown, I-III-VFA.	
2780	2790	20	<u>Limestone</u> , buff, dolomitic, fossils.	<u>20% fluorescence and cut as above.</u>
		20	<u>Sandstone</u> , as above.	
		30	<u>Siltstone</u> , brown-dark reddish brown, as above.	
		20	<u>Siltstone</u> , gray green, as above.	
		10	<u>Shale</u> , tan-light brown, as above.	
2790	2800	30	<u>Sandstone</u> , as above.	<u>10% fluorescence and cut as above.</u>
		10	<u>Gilsonite</u>	
		10	<u>Limestone</u> , as above.	
		20	<u>Siltstone</u> , light gray-tan, calcareous, grading from sand.	
		20	<u>Siltstone</u> , brown-dark reddish brown, as above.	
		10	<u>Siltstone</u> , gray green, as above.	

DITCH SAMPLES

Examined by Thurber 2800 to 2830
_____ to _____Well Southman Canyon Unit #8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
2800	2810	40	<u>Sandstone</u> , as above.	<u>10% fluorescence</u> <u>and cut as above.</u>
		20	<u>Siltstone</u> , light grey-tan, as above.	
		20	<u>Siltstone</u> , brown-dark reddish brown, as above.	
		10	<u>Limestone</u> , as above.	
		10	<u>Siltstone</u> , gray green, as above.	
2810	2820	60	<u>Sandstone</u> , light grey, very fine, very silty, calcareous, occasional glauconitic, sub-angular.	
		20	<u>Limestone</u> , tan-brown, I-III VFA, silty, argillaceous.	
		10	<u>Siltstone</u> , gray green, as above.	
		10	<u>Siltstone</u> , brown-dark reddish brown, as above.	
2820	2830	50	<u>Sandstone</u> , white-light gray, calcareous, very fine-fine, glauconitic, micaceous, sub-rounded, fair sorted.	
		50	<u>Limestone</u> , tan, I-VFA, occasional fossil.	

DITCH SAMPLES

Examined by Thurber 2830 to 2960
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
2830	2840	20	<u>Shale</u> , gray, slightly calcareous, silty in part.	
		30	<u>Limestone</u> , gray-dark gray, ostracodal.	
		20	<u>Sand</u> , as above.	
		30	<u>Limestone</u> , tan, as above.	
2840	2850	40	<u>Sand</u> , light gray, as above, grading to silstone in part.	
		30	<u>Shale</u> , as above.	
		20	<u>Limestone</u> , tan, as above.	
		10	<u>Limestone</u> , gray, as above.	
		Tr	<u>Limestone</u> , light tan, IVFA, siliceous.	
2850	2860	50	<u>Shale</u> , light gray green, silty in part, slightly calcareous.	
		30	<u>Siltstone</u> , gray, slightly calcareous.	
		10	<u>Sand</u> , as above.	
		10	<u>Limestone</u> , tan, as above.	
		Tr	<u>Limestone</u> , white, chalky, IIVFA (marl?)	
2860	2870	90	<u>Sand</u> , light gray, very fine, slightly calcareous, glauconitic, micaceous, sub-rounded, silty in part, good sorting.	
		10	<u>Shale</u> , as above.	
2870	2880	60	<u>Shale</u> , gray-light gray brown, soft, platy, slightly calcareous.	
		20	<u>Sand</u> , as above.	
		20	<u>Limestone</u> , brown-dark brown, dolomitic, I/IIIVFA, silty.	
2880	2890		As above.	
2890	2900	80	<u>Limestone</u> , tan, buff, brown-dark brown, occasionally fossiliferous, silty in part (<u>brown mineral fluorescence</u>).	
		20	<u>Shale</u> , as above.	
2900	2910	60	<u>Limestone</u> , buff, IVFA, fossiliferous. (<u>Brown mineral fluorescence</u>)	
		40	<u>Limestone</u> , brown-gray, fossiliferous, I/IIIVFA, occasionally silty.	
2910	2930	80	<u>Limestone</u> , buff, ostracods and oolites. (<u>Brown mineral fluorescence</u>)	
		10	<u>Chert</u> , dark brown orange, with ostracods and oolites.	
		10	<u>Limestone</u> , brown-gray, as above.	
2930	2950	80	<u>Limestone</u> , gray brown-brown, I-I/IIIVFA, ostracods and oolites, occasionally silty.	
		20	<u>Limestone</u> , buff, as above.	
2950	2960	30	<u>Limestone</u> , dark gray-dark gray brown, ostracods, oolites.	
		20	<u>Limestone</u> , buff, as above.	
		50	<u>Shale</u> , brown-gray, slightly calcareous, occasionally silty.	

DITCH SAMPLES

Examined by Thurber 2960 to 3110
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
2960	2970	50	<u>Shale</u> , green, calcareous, soft, firm.	
		20	<u>Limestone</u> , buff, as above.	
		20	<u>Limestone</u> , dark gray, as above.	
		10	<u>Shale</u> , brown-gray, as above.	
2970	2980	70	<u>Shale</u> , green, as above.	
		10	<u>Shale</u> , brown-gray, as above.	
		10	<u>Limestone</u> , dark gray, as above.	
		10	<u>Limestone</u> , buff, as above.	
2980	2990	80	<u>Shale</u> , white, bentonitic, with very fine floating sand grains, soft, gummy, limy.	
		10	<u>Shale</u> , green, as above.	
		10	<u>Siltstone</u> , gray green-green, sandy, non-calcareous, friable.	
2990	3010	40	<u>Siltstone</u> , as above, very sandy in part.	
		40	<u>Shale</u> , white, as above.	
		20	<u>Shale</u> , green, as above.	
3010	3020	30	<u>Shale</u> , green, calcareous in part.	
		30	<u>Shale</u> , dull red orange, occasionally purple, calcareous, crumbly, with very fine floating sand grains.	
		30	<u>Siltstone</u> , light green, calcareous in part.	
		10	<u>Shale</u> , gray,	
3020	3040	50	<u>Shale</u> , gray, very silty, calcareous, grading to siltstone.	
		20	<u>Shale</u> , green, as above.	
		20	<u>Siltstone</u> , light green, as above.	
		10	<u>Shale</u> , dull red and purple, as above.	
3040	3050	50	<u>Shale</u> , orange, very soft, gummy.	
		20	<u>Shale</u> , green, as above.	
		20	<u>Siltstone</u> , light green, as above, occasionally very sandy.	
		10	<u>Shale</u> , dull red and purple, as above.	
3050	3060	100	<u>Shale</u> , orange, as above.	
3060	3080	100	<u>Shale</u> , orange, white, soft, gummy.	
3080	3090	40	<u>Shale</u> , orange, white, as above.	
		50	<u>Shale</u> , vari-colored, red, purple, green, gray, firm-crumbly.	
		10	<u>Siltstone</u> , light green, as above.	
3090	3100	80	<u>Shale</u> , orange, white, as above.	
		20	<u>Shale</u> , vari-colored, as above.	
3100	3110	100	<u>Shale</u> , vari-colored, as above.	

DITCH SAMPLES

Examined by Thurber 3110 to 3345
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
3110	3140	40	<u>Siltstone</u> , light gray green, friable, calcareous, occasionally sandy.	
		40	<u>Shale</u> , vari-colored, as above.	
		20	<u>Shale</u> , white, as above.	
3140	3160	30	<u>Sand</u> , light gray, very fine, calcareous, silty, glauconitic, micaceous, grading from siltstone above.	
		20	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , vari-colored, as above.	
3160	3170	10	<u>Sand</u> , light gray, as above.	
		10	<u>Siltstone</u> , light gray, as above.	
		40	<u>Siltstone</u> , gray-brown, as above.	
		40	<u>Shale</u> , vari-colored, as above.	
3170	3200	10	<u>Sand</u> , light gray, as above.	
		20	<u>Siltstone</u> , light gray, as above.	
		30	<u>Siltstone</u> , gray-brown, as above.	
		40	<u>Shale</u> , vari-colored, as above.	
3200	3210	70	<u>Shale</u> , as above.	
		20	<u>Siltstone</u> , gray-brown, as above.	
		10	<u>Siltstone</u> , light gray, as above, occasionally very sandy.	
3210	3220	100	<u>Shale</u> , as above.	
3220	3240	20	<u>Siltstone</u> , gray-brown, calcareous, sandy in part.	
		80	<u>Shale</u> , as above.	
3240	3280	10	<u>Siltstone</u> , as above.	
		90	<u>Shale</u> , as above.	
3280	3320	100	<u>Shale</u> , as above, occasional yellow mottling.	
3320	3335	10	<u>Sand</u> , light gray-gray green, very fine, slightly calcareous.	
		10	<u>Limestone</u> , tan-brown, I-I/IIIIVFA, occasionally light purple.	
		80	<u>Shale</u> , as above.	
3335	3340	10	<u>Limestone</u> , as above.	
		20	<u>Sand</u> , white-light gray, occasionally light tan, fine and very fine, glauconitic, micaceous, slightly calcareous-calcareous.	
		80	<u>Shale</u> , as above.	
3340	3345	20	<u>Limestone</u> , white-purple, IVFA, hard, occasional limestone, tan-brown, as above.	
		20	<u>Sand</u> , as above.	
		60	<u>Shale</u> , as above.	

DITCH SAMPLES

Examined by Thurber 3345 to 3435
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
3345	3355	30	<u>Sand</u> , as above, occasionally dark gray, occasional vari-colored grains, , occasional dark stain, <u>no fluorescence, good yellow cut fluorescence.</u>	
		10	<u>Limestone</u> , as above.	
		60	<u>Shale</u> , as above.	
3355	3365	20	<u>Sand</u> , light gray-gray green, occasionally tan, very fine and fine, calcareous, glauconitic, micaceous, silty in part, occasional brown black oil stain, <u>occasional yellow fluorescence and good yellow cut fluorescence.</u>	
		10	<u>Limestone</u> , tan-white purple, IVFA, hard, argillaceous.	
		70	<u>Shale</u> , vari-colored, occasional mottling, calcareous in part, <u>10% yellow fluorescence, faint cut fluorescence.</u>	
3365	3370	10	<u>Sand</u> , as above.	
		10	<u>Limestone</u> , buff, IIVFA, very argillaceous.	
		80	<u>Shale</u> , as above, <u>10% fluorescence and cut, as above.</u>	
3370	3380	10	<u>Limestone</u> , white and light purple, IVFA.	
		10	<u>Sand</u> , as above.	
		80	<u>Shale</u> , as above, <u>10% fluorescence and cut, as above.</u>	
3380	3390	10	<u>Limestone</u> , as above.	
		10	<u>Sand</u> , as above.	
		80	<u>Shale</u> , as above.	
3390	3395		Depth correction.	
3395	3410	70	<u>Sand</u> , white-light gray, very fine-fine, glauconitic, micaceous, sub-rounded, calcareous, occasional vari-colored grains.	
		30	<u>Shale</u> , vari-colored, as above.	
3410	3425	20	<u>Sand</u> , as above.	
		40	<u>Siltstone</u> , brown-gray.	
		40	<u>Shale</u> , brown-gray, occasionally dark brown, occasionally dark red brown.	
3425	3430	20	<u>Sand</u> , as above.	
		20	<u>Shale</u> , vari-colored, as above.	
		40	<u>Shale</u> , brown-gray, as above, occasionally black (coal?)	
		20	<u>Siltstone</u> , as above.	
		Tr	<u>Limestone</u> , white-light purple, IVFA.	
3430	3435	20	<u>Sand</u> , as above.	
		30	<u>Shale</u> , white, soft, gummy.	
		30	<u>Shale</u> , vari-colored, as above.	
		20	<u>Shale</u> , brown-gray, as above.	
		Tr	<u>Limestone</u> , as above.	

DITCH SAMPLES

Examined by Thurber 3435 to 3510
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
3435	3440	10	<u>Limestone</u> , white-light purple and tan, IVFA.	
		10	<u>Sand</u> , as above.	
		60	<u>Shale</u> , brown-gray, occasionally black, occasionally very silty.	
		20	<u>Shale</u> , vari-colored, as above.	
3440	3455	20	<u>Siltstone</u> , light gray green, soft, limy.	
		10	<u>Limestone</u> , as above.	
		10	<u>Sand</u> , as above.	
		30	<u>Shale</u> , brown-gray, as above.	
		30	<u>Shale</u> , vari-colored, as above.	
3455	3465	40	<u>Sand</u> , very fine, light gray, occasional vari-colored grains, calcareous, glauconitic, micaceous.	
		20	<u>Limestone</u> , as above.	
		10	<u>Siltstone</u> , light gray green, as above.	
		20	<u>Shale</u> , vari-colored, as above.	
		10	<u>Shale</u> , brown-gray, as above.	
3465	3480	60	<u>Sand</u> , gray-gray brown, very fine, occasionally fine, silty in part, vari-colored grains, calcareous, sub-rounded.	
		20	<u>Shale</u> , brown-gray, as above.	
		10	<u>Shale</u> , vari-colored, as above.	
		10	<u>Siltstone</u> , as above.	
		Tr	<u>Limestone</u> , as above.	
3480	3485		Sample skip.	
3485	3490	20	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		30	<u>Shale</u> , vari-colored, as above.	
		30	<u>Shale</u> , brown-gray, as above.	
		Tr	<u>Limestone</u> , as above.	
3490	3495	80	<u>Shale</u> , vari-colored, red, green, brown, gray, orange, purple, occasional yellow mottling.	
		10	<u>Sand</u> , as above.	
		10	<u>Limestone</u> , white, light purple, light green, tan, IVFA, argillaceous in part.	
3495	3500	70	<u>Shale</u> , as above.	
		10	<u>Sand</u> , as above.	
		10	<u>Limestone</u> , as above.	
		10	<u>Siltstone</u> , gray green, calcareous, sandy in part.	
3500	3510	20	<u>Siltstone</u> , gray green, as above.	
		10	<u>Sand</u> , as above.	
		70	<u>Shale</u> , as above.	
		Tr	<u>Limestone</u> , as above.	

DITCH SAMPLES

Examined by Thurber 3510 to 3585
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
3510	3520	20	<u>Sand</u> , white-gray green, very fine-fine, silty in part, calcareous.	
		20	<u>Siltstone</u> , gray green-light green, sandy in part, calcareous.	
		60	<u>Shale</u> , vari-colored, abundant red and green and gray-brown shale.	
3520	3525	80	<u>Siltstone</u> , green, calcareous.	
		20	<u>Shale</u> , as above.	
		Tr	<u>Limestone</u> , as above.	
		Tr	<u>Sand</u> , as above.	
3525	3535	30	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , as above.	
		10	<u>Limestone</u> , as above.	<u>10% yellow fluorescence, predominantly mineral fluorescence, occasional faint cut fluorescence from limestone.</u>
		Tr	<u>Sand</u> , as above.	
3535	3540	60	<u>Siltstone</u> , as above, occasionally sandy.	
		10	<u>Sand</u> , as above.	<u>10% yellow fluorescence, predominantly mineral fluorescence, occasional faint cut fluorescence from limestone.</u>
		30	<u>Shale</u> , as above.	
		Tr	<u>Limestone</u> , as above.	
3540	3550	20	<u>Siltstone</u> , as above.	
		20	<u>Sand</u> , as above.	
		50	<u>Shale</u> , as above.	<u>20% fluorescence and occasional cut fluorescence, as above.</u>
		10	<u>Limestone</u> , as above.	
3550	3565	10	<u>Limestone</u> , brown-tan, white, IVFA-IIVFA.	
		10	<u>Sand</u> , as above.	<u>20% fluorescence and occasional cut fluorescence,</u>
		20	<u>Siltstone</u> , gray green, as above.	<u>as above.</u>
		60	<u>Shale</u> , vari-colored, abundant brown and gray.	
3565	3570	40	<u>Sand</u> , white-light green, occasionally tan, very fine, calcareous, silty.	
		20	<u>Siltstone</u> , green, as above.	<u>20% fluorescence and occasional cut fluorescence, as above.</u>
		40	<u>Shale</u> , as above.	
3570	3575	10	<u>Sand</u> , as above.	<u>20% yellow fluorescence, predominantly mineral fluorescence, occasional faint-fair cut fluorescence.</u>
		50	<u>Siltstone</u> , green, as above.	
		40	<u>Shale</u> , as above.	
3575	3580	50	<u>Siltstone</u> , gray green, calcareous, sandy, grading from sandy.	
		10	<u>Siltstone</u> , green, as above.	<u>20% yellow fluorescence, predominantly mineral fluorescence, occasional faint-fair cut fluorescence.</u>
		10	<u>Sand</u> , as above.	
		30	<u>Shale</u> , as above.	
3580	3585	80	<u>Siltstone</u> , gray green, as above.	<u>20% yellow fluorescence, predominantly mineral fluorescence, occasional faint-fair cut fluorescence.</u>
		20	<u>Shale</u> , as above.	

DITCH SAMPLES

Examined by Thurber 3585 to 3665
_____ to _____Well. Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
3585	3595	10	<u>Limestone</u> , as above.	<u>20% yellow fluorescence, predominantly</u>
		10	<u>Sand</u> , as above.	<u>mineral fluorescence, occasional faint-</u>
		30	<u>Siltstone</u> , gray green, as above.	<u>fair cut fluorescence.</u>
		50	<u>Shale</u> , as above.	
3595	3600	20	<u>Sand</u> , as above, occasionally fine, clear sand.	
		10	<u>Limestone</u> , as above.	<u>20% yellow fluorescence, predominantly mineral</u>
		30	<u>Siltstone</u> , as above.	<u>fluorescence, occasional faint-fair cut fluorescence.</u>
		40	<u>Shale</u> , as above.	
3600	3605	50	<u>Siltstone</u> , green, very sandy, calcareous.	<u>20% yellow fluorescence,</u>
		50	<u>Shale</u> , as above.	<u>predominantly mineral fluores-</u>
				<u>cence, occasional faint-fair</u>
				<u>cut fluorescence.</u>
3605	3610	10	<u>Limestone</u> , white, chalky, IIVFA.	<u>20% yellow fluorescence, predominantly</u>
		50	<u>Siltstone</u> , as above.	<u>mineral fluorescence, occasional faint-</u>
		40	<u>Shale</u> , as above.	<u>fair cut fluorescence.</u>
3610	3615	30	<u>Siltstone</u> , as above.	<u>20% yellow fluorescence, predominantly mineral</u>
		70	<u>Shale</u> , as above.	<u>fluorescence, occasional faint-fair cut fluorescence.</u>
3615	3620	100	<u>Shale</u> , vari-colored, as above.	<u>10% fluorescence, as above, occasional</u>
				<u>faint cut fluorescence.</u>
3620	3625	10	<u>Limestone</u> , white, I-IIVFA.	<u>10% fluorescence, as above,</u>
		20	<u>Siltstone</u> , gray green-gray, as above.	<u>occasional faint cut fluorescence.</u>
		70	<u>Shale</u> , as above.	
3625	3635	10	<u>Sand</u> , as above.	<u>10% fluorescence, as above, occasional faint</u>
		10	<u>Siltstone</u> , as above.	<u>cut fluorescence.</u>
		10	<u>Limestone</u> , as above.	
		70	<u>Shale</u> , as above.	
3635	3640	20	<u>Sand</u> , white, occasionally tan, occasional black inclusions, fine-very fine, sub-rounded, well sorted, calcareous, occasional dark stain, no fluorescence, occasional yellow cut fluorescence.	
		10	<u>Limestone</u> , as above.	<u>25% fluorescence, predomi-</u>
		10	<u>Siltstone</u> , as above.	<u>nantly mineral fluorescence,</u>
		60	<u>Shale</u> , as above, abundant brown shale, silty.	<u>occasional weak cut</u>
				<u>fluorescence.</u>
				<u>(Brown shale has yellow</u>
3640	3655		As above.	<u>mineral fluorescence.)</u>
3655	3665	10	<u>Sand</u> , as above, predominantly very fine, silty in part.	
		10	<u>Limestone</u> , as above, occasionally brown, fossiliferous.	
		20	<u>Siltstone</u> , green, as above.	<u>25% fluorescence, predominantly mineral</u>
		60	<u>Shale</u> , as above.	<u>fluorescence, occasional weak cut fluores-</u>
				<u>cence. (Brown shale has yellow mineral</u>
				<u>fluorescence.)</u>

DITCH SAMPLES

Examined by Thurber 3665 to 3760
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
3666	3680		Core #1 - No Recovery.	
3680	3685	90	<u>Shale</u> , predominantly gray and dull red, occasionally maroon and purple, slightly calcareous in part, soft-firm.	
		10	<u>Siltstone</u> , gray green.	
		Tr	<u>Sand</u> , as above. <u>No fluorescence.</u>	
3685	3690	20	<u>Sand</u> , gray-gray green, very fine, calcareous, grading to siltstone.	
		40	<u>Siltstone</u> , gray-green, sandy in part.	
		40	<u>Shale</u> , as above.	
		Tr	<u>Limestone</u> , as above.	
3690	3700		As above.	
3700	3705	10	<u>Sand</u> , white-light gray green, as above.	
		10	<u>Siltstone</u> , as above.	
		80	<u>Shale</u> , as above.	
3705	3710	10	<u>Limestone</u> , white-tan-purple, IVFA.	
		10	<u>Sand</u> , light tan, very fine-fine, calcareous, sub-angular, tight, hard.	
		10	<u>Sand</u> , white-light gray green, as above.	
		10	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , as above. <u>(No fluorescence or cut fluorescence)</u>	
3710	3715	20	<u>Sand</u> , white, vari-colored grains, fine, calcareous, sub-rounded.	
		10	<u>Sand</u> , light tan, as above.	
		10	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , as above.	
3715	3725	10	<u>Sand</u> , white, as above.	
		10	<u>Sand</u> , light tan, as above.	
		80	<u>Shale</u> , as above.	
3725	3740	20	<u>Siltstone</u> , gray green-green, occasionally sandy.	
		80	<u>Shale</u> , as above, with occasional yellow mottling.	
		Tr	<u>Sand</u> , light tan, as above.	
		Tr	<u>Limestone</u> , as above.	
3740	3755	10	<u>Sand</u> , gray green, very fine, silty, calcareous, grading from siltstone.	
		20	<u>Siltstone</u> , as above.	
		70	<u>Shale</u> , as above, occasional abundant mottling.	
		Tr	<u>Sand</u> , light tan, as above.	
		Tr	<u>Limestone</u> , as above.	
3755	3760	20	<u>Sand</u> , gray green, as above, very fine-fine, less silty.	
		10	<u>Siltstone</u> , as above.	
		70	<u>Shale</u> , as above.	
		Tr	<u>Limestone</u> , as above.	

DITCH SAMPLES

Examined by Thurber 3760 to 3824
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
3760	3765	10	<u>Sand</u> , light tan and gray tan, very fine-silty, well sorted, calcareous.	
		10	<u>Sand</u> , white, fine, as above.	
		10	<u>Siltstone</u> , gray green, as above.	
		70	<u>Shale</u> , as above.	
3765	3770	10	<u>Sand</u> , light tan, as above.	
		90	<u>Shale</u> , as above.	
		Tr	<u>Sand</u> , white, fine, as above.	
		Tr	<u>Limestone</u> , as above.	
		Tr	<u>Siltstone</u> , as above.	
3770	3775	90	<u>Shale</u> , as above.	
		10	<u>Siltstone</u> , as above.	
		Tr	<u>Sand</u> , white, as above.	
		Tr	<u>Limestone</u> , as above.	
3775	3780		As above.	
3780	3785	50	<u>Sand</u> , light brown, very fine-fine, subangular-angular, very calcareous cement, poor sorting.	
		50	<u>Shale</u> , as above.	
3785	3790	100	<u>Sand</u> , as above.	
3790	3795	90	<u>Shale</u> , vari-colored, with abundant green, non-calcareous.	
		10	<u>Siltstone</u> , gray, calcareous, very sandy.	
		Tr	<u>Sand</u> , as above.	
3795	3800	30	<u>Sand</u> , gray-very light tan, very fine, calcareous, grading from siltstone.	
		60	<u>Shale</u> , as above.	
		10	<u>Siltstone</u> , gray-gray green, sandy in part.	
		Tr	<u>Sand</u> , as above.	
3800	3805	20	<u>Sand</u> , gray-very light tan, as above, friable.	
		20	<u>Sand</u> , white-light gray, very fine-fine, calcareous, vari-colored grains, friable, salt and pepper, sub-rounded, fair sorting.	
		10	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above.	
3805	3810	30	<u>Sand</u> , white-light gray, as above.	
		10	<u>Sand</u> , gray-very light tan, as above.	
		10	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above.	
3810	3824		Core #2, <u>Sand</u> with interbeds of shale and siltstone.	

DITCH SAMPLES

Examined by Thurber 3824 to 3875
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
3824	3830	30	<u>Siltstone</u> , gray-dark gray, sandy, calcareous.	
		20	<u>Sand</u> , light gray-tan, very fine-fine, as above.	
		50	<u>Shale</u> , vari-colored, predominantly gray, gray green and gray brown.	
3830	3840	40	<u>Sand</u> , gray green, very fine-silty, grading from siltstone, calcareous.	
		20	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above.	
		Tr	<u>Limestone</u> , tan, white, light green, IVFA.	
3840	3845	20	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , as above.	
		Tr	<u>Limestone</u> , as above.	
3845	3850	30	<u>Sand</u> , light gray-white, very fine-fine, sub-rounded-subangular, fair sorting, well cemented, vari-colored grains.	
		10	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above.	
		Tr	<u>Limestone</u> , as above.	
3850	3855	80	<u>Sand</u> , white-light gray, as above.	
		10	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above.	
3855	3860	30	<u>Sand</u> , light brown, subangular-angular, very calcareous cement, very fine-fine, well cemented, poor sorting, vari-colored grains.	
		20	<u>Sand</u> , as above.	
		10	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above, with abundant dark brown silty shale.	
3860	3865	20	<u>Limestone</u> , light-dark brown, IVFA.	
		20	<u>Siltstone</u> , gray-brown, calcareous.	
		10	<u>Sand</u> , white-light gray, as above.	
		50	<u>Shale</u> , as above.	
3865	3870	30	<u>Siltstone</u> , brown-dark red brown, slightly calcareous.	
		10	<u>Limestone</u> , as above.	
		10	<u>Shale</u> , as above.	
		10	<u>Siltstone</u> , gray-brown, as above.	
		40	<u>Shale</u> , as above.	
3870	3875	30	<u>Siltstone</u> , gray-gray green, sandy in part, calcareous.	
		10	<u>Sand</u> , brown, very fine, very limy.	
		10	<u>Sand</u> , white-light gray, very fine-fine, as above.	
		50	<u>Shale</u> , as above.	

DITCH SAMPLES

Examined by Thurber 3875 to 3900
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
3875	3880	50	<u>Sand</u> , gray-gray brown, very fine, calcareous, silty in part, sub-rounded, fair sorting, occasional vari-colored grains.	
		10	<u>Siltstone</u> , as above.	
		20	<u>Shale</u> , white, bentonitic, very soft.	
		20	<u>Shale</u> , as above.	
3880	3890	20	<u>Siltstone</u> , green, calcareous.	
		50	<u>Sand</u> , as above, occasionally white-light gray.	
		10	<u>Shale</u> , white, as above.	
		20	<u>Shale</u> , as above.	
		Tr	<u>Limestone</u> , as above.	
3890	3895	30	<u>Shale</u> , white, as above, with very fine floating sand grains.	
		10	<u>Sand</u> , white-light gray, very fine-medium, poor sorting, calcareous, friable, vari-colored grains.	
		10	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , green, gray green, calcareous.	
		30	<u>Shale</u> , vari-colored, with abundant brown, gray and gray green.	
3895	3900	20	<u>Shale</u> , white, as above.	
		40	<u>Sand</u> , white-clear, fine, sub-rounded, calcareous, fair-poor sorting, vari-colored grains.	
		20	<u>Siltstone</u> , gray-gray green.	
		20	<u>Shale</u> , as above.	
3900	3905		As above	
3905	3910	40	<u>Shale</u> , white-grey, very soft, bentonitic	
		20	<u>Sand</u> , as above	
		30	<u>Siltstone</u> , grey, brown, grey-green, sandy in part, argillaceous in part	
		10	<u>Shale</u> , vari-colored, as above, abundant grey and brown	
3910	3915	70	<u>Siltstone</u> , as above	
		10	<u>Sand</u> , as above, occasionally very fine	
		10	<u>Shale</u> , white, as above	
		10	<u>Shale</u> , vari-colored, as above	
3915	3925	50	<u>Shale</u> , white, as above	
		10	<u>Sand</u> , as above	
		10	<u>Shale</u> , as above	
		30	<u>Siltstone</u> , as above	
3925	3940	10	<u>Limestone</u> , tan-brown, very-argillaceous and silty	
		10	<u>Sand</u> , white, fine, as above	
		60	<u>Shale</u> , white-grey, occasionally red, purple and green, very soft	
		20	<u>Siltstone</u> , as above	

DITCH SAMPLES

Examined by Thurber 3940 to 4005
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
3940	3950	10	<u>Limestone</u> , as above, occasionally light tan, IVFA	
		20	<u>Sand</u> , white-cream, very fine-fine, slightly calcareous	
		40	<u>Shale</u> , as above	
		30	<u>Siltstone</u> , as above	
3950	3960	60	<u>Shale</u> , as above	
		40	<u>Siltstone</u> , as above	
		Tr	<u>Limestone</u> , as above	
		Tr	<u>Sand</u> , as above	
3960	3965	20	<u>Sand</u> , light grey green, very fine, friable, calcareous, well sorted	
		30	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , as above	
3965	3970	70	<u>Sand</u> , light grey-light grey green, very fine-fine, calcareous, vari-colored grains, friable	
		20	<u>Siltstone</u> , grey-grey green	
		10	<u>Shale</u> , as above	
3970	3975	50	<u>Shale</u> , white, bentonitic, very soft	
		20	<u>Sand</u> , as above	
		10	<u>Siltstone</u> , as above	
		20	<u>Shale</u> , vari-colored, as above	
3975	3980	70	<u>Shale</u> , white-grey, as above	
		20	<u>Siltstone</u> , as above	
		10	<u>Sand</u> , as above	
3980	3985	80	<u>Shale</u> , grey, white, very soft	
		10	<u>Sand</u> , as above	
		10	<u>Siltstone</u> , as above	
3985	3995	100	<u>Sand</u> , light tan, very fine-silty, graded from siltstone, calcareous, well sorted, hard.	
3995	4000	80	<u>Shale</u> , vari-colored, predominately white-grey, very soft, as above	
		20	<u>Sand</u> , as above	
4000	4005	10	<u>Limestone</u> , tan-grey, argillaceous, I/III VFA	
		10	<u>Sand</u> , as above	
		10	<u>Sand</u> , white-grey, occasionally yellow brown, very fine-fine calcareous	
		30	<u>Siltstone</u> , brown, grey and grey green	
40	<u>Shale</u> , as above			

DITCH SAMPLES

Examined by Thurber 4005 to 4060
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4005	4010	20	<u>Limestone</u> , as above, with limestone, light cream, siliceous, IVFA nad limestone, mottled brown and dark brown, IVFA	
		10	<u>Sand</u> , as above	
		10	<u>Sand</u> , white-grey, as above	
		30	<u>Siltstone</u> , as above	
		30	<u>Shale</u> , brown, dark red brown, grey, occasionally mottled, silty	
4010	4015	10	<u>Sand</u> , as above, occasionally light tan	
		40	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , as above	
4015	4021	10	<u>Sand</u> , white-clear, fine, sub-angular-sub-rounded, friable, <u>Trace oil stain, no fluorescence, fair yellow cut fluorescence</u>	
		10	<u>Sand</u> , light trace, as above	
		30	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , as above	
4021	4035	Core #3	Cut 14 feet, recovered 3 feet, sand, white-light grey, fine, occasionally very fine, slightly calcareous, sub-angular-angular, fair cement, fairly sorted, vari-colored grains, abundant black inclusions, crystalline porosity, faint gas odor, no fluorescence or cut fluorescence	
4035	4040	80	<u>Shale</u> , vari-colored, as above, abundant grey green-grey brown	Poor samples
		10	<u>Siltstone</u> , grey-grey green, slightly calcareous	
		10	<u>Sand</u> , white-light grey, as above	
4040	4045	40	<u>Sand</u> , as above with abundant loose grains	poor samples
		20	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above	
4045	4050	20	<u>Sand</u> , as above	
		10	<u>Siltstone</u> , as above	
		70	<u>Shale</u> , as above	
4050	4055	90	<u>Shale</u> , as above	poor samples
		10	<u>Siltstone</u> , as above	poor samples
		Tr	<u>Sand</u> , as above	
4055	4060	50	<u>Shale</u> , white-gray, very soft	
		40	<u>Shale</u> , as above	
		10	<u>Siltstone</u> , as above	
		Tr	<u>Limestone</u> , tan-brown, I VFA, argillaceous in part	

DITCH SAMPLES

Examined by Thurber 4060 to 4125
 _____ to _____

Well Southman Canyon Unit 8
 Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4060	4065	30	<u>Siltstone</u> , light grey-light grey tan, sandy, calcareous	
		50	<u>Shale</u> , white-grey, as above	
		20	<u>Shale</u> , as above	
4065	4075	20	<u>Limestone</u> , grey-tan, very silty, III/IVFA	
		20	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , grey-white, as above	
		20	<u>Shale</u> , as above	
4075	4080	10	<u>Limestone</u> , as above	
		10	<u>Limestone</u> , tan, IVFA	
		30	<u>Siltstone</u> , as above	
		10	<u>Sand</u> , as above	
		20	<u>Shale</u> , white-grey, as above	
		20	<u>Shale</u> , as above	
4080	4085	10	<u>Limestone</u> , silty, as above	
		30	<u>Siltstone</u> , as above	
		30	<u>Shale</u> , white-grey, as above	
		30	<u>Shale</u> , as above	
4085	4095	20	<u>Shale</u> , white-grey, very soft	
		60	<u>Shale</u> , red, green, grey, brown, purple, firm-soft	
		10	<u>Limestone</u> , tan-brown, IVFA, very hard, siliceous, argillaceous, grading to hard limy shale	
		10	<u>Siltstone</u> , grey green-green, sandy in part	
4095	4100	20	<u>Limestone</u> , as above	
		80	<u>Shale</u> , vari-colored, as above with rare medium floating sand grains	
4100	4105	40	<u>Sand</u> , light grey-light tan, very fine, very silty, poor cement, fairly sorted, sub-rounded, calcareous	
		60	<u>Shale</u> , as above, with occasional tan, very limy with very fine floating sand grains	
4105	4110	80	<u>Sand</u> , light grey, fine-very fine, sub-rounded-sub-angular, calcareous, poorly cemented, friable, fairly sorted, vari-colored grains with black inclusions	
		20	<u>Shale</u> , as above	
4110	4115	40	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , grey-green, occasionally brown, sandy in part, slightly calcareous, hard	
		40	<u>Shale</u> , as above with abundant brown and grey green, hard, non-calcareous, siliceous in part, occasionally brown, very limy, fossiliferous	
4115	4125		As above	

DITCH SAMPLES

Examined by Thurber 4125 to 4185
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4125	4130	20	<u>Sand</u> , as above	
		40	<u>Shale</u> , white-grey, very soft, calcareous	
		10	<u>Siltstone</u> , as above	
		30	<u>Shale</u> , vari-colored, firm-soft	
4130	4145	10	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , white-grey, as above	
		10	<u>Shale</u> , vari-colored, as above	
4145	4150	70	<u>Shale</u> , tan, very limy, soft-firm, grading from limestone	
		20	<u>Shale</u> , white-grey, as above	
		10	<u>Shale</u> , vari-colored, as above	
		Tr	<u>Sand</u> , as above	
		Tr	<u>Siltstone</u> , as above	
4150	4155	20	<u>Shale</u> , tan, as above, almost a limestone	
		60	<u>Siltstone</u> , gray-brown, calcareous, hard	
		10	<u>Sand</u> , as above	
		10	<u>Shale</u> , varicolored, as above	
4155	4160	80	<u>Sand</u> , gray, occasionally very light tan, fine, sub-rounded-angular, fair cementing, calcareous, fair sorting, varicolored grains with abundant brown grains and black inclusions, <u>no fluorescence or cut fluorescence</u>	
		10	<u>Shale</u> , tan, as above	
		10	<u>Shale</u> , varicolored, as above	
4160	4170	20	<u>Sand</u> , as above	
		10	<u>Shale</u> , tan, as above	
		50	<u>Shale</u> , gray-light gray, very soft, calcareous	
		20	<u>Siltstone</u> , as above	
4170	4175	50	<u>Siltstone</u> , gray green-gray, sandy in part, argillaceous in part, calcareous	
		30	<u>Shale</u> , gray, brown and green	
		10	<u>Sand</u> , as above	
		10	<u>Shale</u> , tan, as above	
4175	4180	70	<u>Siltstone</u> , gray green-gray brown, sandy in part, argillaceous in part, calcareous	
		20	<u>Shale</u> , tan, as above	
		10	<u>Shale</u> , gray, as above	
		Tr	<u>Sand</u> , as above	
4180	4185	20	<u>Sand</u> , as above	
		40	<u>Siltstone</u> , gray, calcareous, grading to sand	
		10	<u>Siltstone</u> , as above	
		30	<u>Shale</u> , varicolored, abundant green and gray, slightly calcareous-non-calcareous	

DITCH SAMPLES

Examined by Thurber 4185 to 4230
_____ to _____Well. Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4185	4190	10	<u>Limestone</u> , white-gray, soft, II VFA, chalky	
		20	<u>Limestone</u> , tan, I VFA, hard, siliceous in part	
		30	<u>Sand</u> , light greyish tan, very fine, calcareous, grading from siltstone above	
		10	<u>Sand</u> , as above	
		30	<u>Shale</u> , as above	
4190	4195	30	<u>Limestone</u> , tan, as above, occasionally brown, I VFA, fossiliferous	
		10	<u>Sand</u> , light greyish tan, as above	
		20	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above	
4195	4200	70	<u>Shale</u> , as above	
		20	<u>Siltstone</u> , gray, sandy, calcareous	
		10	<u>Limestone</u> , tan, occasionally silty	
		Tr	<u>Sand</u> , as above	
4200	4205	10	<u>Sand</u> , gray, very fine, silty, calcareous, grading from siltstone above	
		20	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , as above	
		10	<u>Limestone</u> , as above	
4205	4210	20	<u>Limestone</u> , greyish tan, II VFA, soft, argillaceous	
		20	<u>Shale</u> , grey-white, very soft	
		50	<u>Shale</u> , varicolored, as above	
		10	<u>Siltstone</u> , as above	
		Tr	<u>Sand</u> , as above	
4210	4215	80	<u>Shale</u> , as above, with abundant green, blue green, red and purple	
		10	<u>Limestone</u> , as above, very argillaceous	
		10	<u>Siltstone</u> , as above	
4215	4220	30	<u>Sand</u> , light grey, very fine, calcareous, sub-round-round, well sorted, friable	
		60	<u>Shale</u> , as above	
		10	<u>Siltstone</u> , as above	
4220	4225	100	<u>Shale</u> , as above	
4225	4230	20	<u>Limestone</u> , light greyish tan-light gray, II VFA, soft, argillaceous	
		20	<u>Limestone</u> , tan-dark brown, I VFA, hard, rare mica, has brown mineral fluorescence, very rare faint milky cut fluorescence	
		60	<u>Shale</u> , varicolored, red, green, grey, purple, brown, firm-soft, non-calcareous-calcareous	

DITCH SAMPLES

Examined by Thurber 4230 to 4270
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4230	4235	20	<u>Siltstone</u> , light gray-very light tan, sandy, very calcareous, grading to sandy limestone	
		10	<u>Limestone</u> , grayish tan-light gray, as above	
		20	<u>Limestone</u> , tan-dark brown, as above	
		50	<u>Shale</u> , as above	
4235	4240	30	<u>Limestone</u> , tan-dark brown, as above, argillaceous in part	
		20	<u>Limestone</u> , light gray-very light tan, as above	
		10	<u>Siltstone</u> , as above, occasionally less limy, more sandy	
		30	<u>Shale</u> , as above	
		10	<u>Sand</u> , light tan-light gray green, very fine-fine, calcareous-slightly calcareous	
4240	4245	20	<u>Limestone</u> , light gray-very light tan, as above	
		10	<u>Limestone</u> , tan-dark brown, as above	
		20	<u>Siltstone</u> , gray, sandy, calcareous	
		50	<u>Shale</u> , as above, with abundant gray, green and light gray green	
4245	4250	20	<u>Limestone</u> , light gray-very light tan, grading to soft silty <u>shale</u>	
		40	<u>Limestone</u> , tan-dark brown, as above	
		10	<u>Siltstone</u> , gray, as above	
		30	<u>Shale</u> , as above	
4250	4255	20	<u>Limestone</u> , light gray-very light tan, as above	
		50	<u>Limestone</u> , tan-very light tan, very silty in part, I III VFA - III I VFA, grading to siltstone	
		10	<u>Siltstone</u> , as above	
		20	<u>Shale</u> , as above	
4255	4260	30	<u>Limestone</u> , light gray-very light tan, as above	
		20	<u>Limestone</u> , tan-very light tan, as above	
		20	<u>Siltstone</u> , gray-tan, sandy in part, limy in part	
		30	<u>Shale</u> , as above	
4260	4265	10	<u>Sand</u> , light gray, fine-very fine, occasional medium, fair sorting, calcareous, SR-SA, <u>trace dark brown oil stain with yellow fluorescence and good yellow cut fluorescence</u>	
		20	<u>Siltstone</u> , gray-light gray green, sandy, calcareous	
		10	<u>Limestone</u> , tan-light tan, I II VFA, very argillaceous	
		10	<u>Limestone</u> , white-gray, II VFA	
		50	<u>Shale</u> , varicolored, as above	
4265	4270	20	<u>Limestone</u> , tan, as above	
		10	<u>Limestone</u> , white, as above	
		40	<u>Shale</u> , varicolored, abundant brown-dark red brown, hard, silty, slightly calcareous	
		20	<u>Siltstone</u> , as above	
		10	<u>Sand</u> , as above	

DITCH SAMPLES

Examined by Thurber 4270 to 4295
Shepard 4295 to 4335

Well Southman Canyon Unit 8
 Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4270	4275	30	<u>Limestone</u> , tan, as above	
		30	<u>Siltstone</u> , gray, brown, sandy in part, argillaceous in part	
		30	<u>Shale</u> , as above	
		10	<u>Sand</u> , white-light gray, very fine, silty, calcareous, well sorted	
4275	4285	10	<u>Sand</u> , white-light gray, as above	
		10	<u>Sand</u> , light brown, fine-very fine, calcareous, angular-sub-angular, poorly sorted, hard	
		20	<u>Limestone</u> , tan, as above	
		20	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above	
		Tr	<u>Sand</u> , loose, coarse, well rounded grains	
4285	4295	30	<u>Sand</u> , white-light gray, very fine-fine, sub-rounded-sub-angular, abundant black inclusions, fairly sorted, hard, well cemented, calcareous	
		10	<u>Sand</u> , white-light gray, very fine, silty, as above	
		20	<u>Siltstone</u> , as above	
		10	<u>Limestone</u> , tan-brown, I VFA, argillaceous, occasionally silty	
		30	<u>Shale</u> , as above	
4295	4310	50	<u>Sand</u> , light gray, generally fine, occasionally very fine and medium occasionally angular, generally sub-rounded-sub-angular, fair sorted, firm-hard, well cemented, calcareous	
		5	<u>Limestone</u> , tan, I VFA, argillaceous	
		25	<u>Siltstone</u> , gray, gray and brown, slightly calcareous	
		20	<u>Shale</u> , varicolored	
4310	4320	20	<u>Sand</u> , light gray, fine, sub-angular-sub-rounded, fair sorted, firm-hard, calcareous	
		10	<u>Sand</u> , light gray, very fine, firm, calcareous	
		5	<u>Limestone</u> , as above	
		35	<u>Siltstone</u> , as above	
		30	<u>Shale</u> , as above	
4320	4330	10	<u>Sand</u> , light gray, fine-very fine, sub-rounded-sub-angular, firm-hard, calcareous	
		5	<u>Limestone</u> , tan-brown, I VFA, oolitic in part	
		75	<u>Siltstone</u> , gray and brown, firm, calcareous	
		10	<u>Shale</u> , brown, firm	
4330	4335	50	<u>Sand</u> , light gray, very fine-fine, sub-angular-sub-rounded, firm-hard, calcareous	
		40	<u>Siltstone</u> , as above	
		10	<u>Shale</u> , as above	

DITCH SAMPLES

Examined by Shepard 4335 to 4495
_____ to _____Well. Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4335	4340	20	<u>Sand</u> , light gray, very fine	
		70	<u>Siltstone</u> , as above	
		10	<u>Shale</u> , as above, abundant pyrites	
4340	4345	10	<u>Sand</u> , light gray, very fine	
		80	<u>Siltstone</u> , as above	
		10	<u>Shale</u> , as above	
4345	4375	10	<u>Sand</u> , light gray, very fine, occasionally fine	
		5	<u>Limestone</u> , medium gray, I VFA, oolitic in part, argillaceous	
		75	<u>Siltstone</u> , as above	
		10	<u>Shale</u> , as above	
4375	4380	30	<u>Sand</u> , light gray, fine-very fine, sub-rounded-sub-angular, friable with difficulty, calcareous	
		70	<u>Siltstone</u> , light gray, firm, calcareous	
4380	4385	70	<u>Sand</u> , light gray, very fine-fine, sub-angular-sub-rounded, friable with difficulty, well cemented, calcareous, numerous dark specks (carb.?) grading to <u>siltstone</u>	
		30	<u>Siltstone</u> , light gray, calcareous, firm, few slicken sides	
4385	4390		Cavings from trip, probably same as 4380-85	
4390	4400	100	<u>Sand</u> , light gray, fine-very fine, sub-angular-sub-rounded, friable with difficulty, well cemented, calcareous, numerous dark specks (carb.?)	
4400	4410	100	<u>Sand</u> , light gray, fine-medium, otherwise as above	
		Tr	<u>Shale</u> , brown, carbonaceous	
4410	4425	100	<u>Sand</u> , light gray, medium, otherwise as above	
		Tr	<u>Shale</u> , as above, occasional slicken sides, 4420-25	
4425	4430	50	<u>Sand</u> , as above	
		5	<u>Limestone</u> , tan, I VFA	
		45	<u>Siltstone</u> , light gray and brown, calcareous	
4430	4450	10	<u>Sand</u> , very fine-fine, otherwise as above	
		90	<u>Siltstone</u> , light-medium gray and brown, calcareous, soft-firm	
4450	4470	20	<u>Sand</u> , white-light gray, fine-medium, sub-angular-sub-rounded, fair sorted, slightly calcareous, fairly easily friable, numerous carbonaceous specks	
		80	<u>Siltstone</u> , as above	
4470	4495	100	<u>Sand</u> , light gray, medium, sub-angular-sub-rounded, fair sorted, difficulty friable, calcareous, with carbonaceous specks	

DITCH SAMPLES

Examined by Thurber 4495 to 4545
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4495	4500	80	<u>Shale</u> , brown, gray green, red brown, yellow, purple, with abundant yellow mottling, firm, non-calcareous-slightly calcareous, silty in part	
		20	<u>Siltstone</u> , gray green-light green, sandy in part, slightly calcareous	
4500	4505	20	<u>Shale</u> , brown-dark brown, very limy, grading to limestone, with abundant dark very fine-fine sand grains, occasional yellow mottling, very friable	
		10	<u>Sand</u> , white, fine-medium, occasionally very fine, sub-angular-angular, poorly sorted, poorly cemented, very friable, non-calcareous, occasional green and pink sand grains, weak crystalline porosity	
		50	<u>Shale</u> , as above	
		20	<u>Siltstone</u> , as above	
4505	4515	50	<u>Sand</u> , white, as above, with occasional sand, light gray, very fine, very friable, calcareous with pink and green sand grains, (abundant loose sand grains)	
		20	<u>Shale</u> , as above	
		10	<u>Shale</u> , brown, as above	
		20	<u>Siltstone</u> , as above	
4505	4515	50	<u>Sand</u> , white, as above with occasional sand, light gray, very fine, very friable, calcareous with pink and green sand grains (abundant loose sand grains)	
		20	<u>Shale</u> , as above	
		10	<u>Shale</u> , brown, as above	
		20	<u>Siltstone</u> , as above	
4515	4520		As above, with <u>sand</u> , white, having <u>trace brown oil stain, no fluorescence, good milky white cut fluorescence</u>	
4520	4525	10	<u>Sand</u> , light gray, very fine, calcareous, friable	
		30	<u>Sand</u> , white, as above	
		10	<u>Siltstone</u> , tan-cream, sandy in part, calcareous in part	
		10	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , varicolored, as above	
4525	4530	10	<u>Limestone</u> , tan, I VFA, very argillaceous	
		90	<u>Shale</u> , abundant purple, red, yellow, gray brown, non-calcareous, soft-firm, abundant mottling	
4530	4535	20	<u>Sand</u> , light gray, very fine, silty, fair cementing, well sorted, slightly calcareous-non-calcareous	
		80	<u>Shale</u> , as above	
4635	4540	40	<u>Sand</u> , light gray, as above	
		60	<u>Shale</u> , as above, with occasional brown and gray, silty in part	
4540	4545	100	<u>Sand</u> , gray, very fine, hard, well sorted, slightly calcareous, with abundant brown and black specks	

DITCH SAMPLES

Examined by Thurber 4545 to 4615
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4545	4550	70	<u>Sand</u> , as above	
		30	<u>Shale</u> , as above	
4550	4555	30	<u>Sand</u> , as above	
		70	<u>Shale</u> , as above	
4555	4560	10	<u>Sand</u> , as above	
		20	<u>Sand</u> , tan, very fine, well cemented, well sorted, slightly calcareous	
		20	<u>Coal</u> , dark brown-black	
		50	<u>Shale</u> , as above, with occasional dark brown-black	
4560	4565	40	<u>Sand</u> , gray, very fine, as above, with occasional fine grains	
		10	<u>Sand</u> , tan, as above	
		20	<u>Siltstone</u> , gray-brown, firm	
		30	<u>Shale</u> , as above	
		Tr	<u>Sand</u> , white, fine-medium, fair-good cementing, sub-angular-sub-rounded, black inclusions and occasional varicolored grains	
4565	4570	10	<u>Sand</u> , white, fine-medium, as above	
		30	<u>Sand</u> , gray, as above	
		20	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above	
4570	4575	80	<u>Sand</u> , white, as above	
		20	<u>Shale</u> , as above	
4575	4580	60	<u>Sand</u> , white, as above	
		10	<u>Siltstone</u> , gray-tan, sandy in part	
		30	<u>Shale</u> , abundant, brown and dark gray, firm, non-calcareous-calcareous	
4580	4595	100	<u>Sand</u> , very light cream-white, fine-medium, sub-rounded-sub-angular, slightly calcareous, abundant black inclusions, occasional brown, green, pink grains, fair cementing, friable with difficulty	
4595	4605	50	<u>Sand</u> , as above, more white-light gray	
		50	<u>Sand</u> , light gray, very fine, calcareous, silty in part, fair cementing, well sorted	
4605	4610	70	<u>Shale</u> , gray-brown, very soft, slightly calcareous	
		20	<u>Sand</u> , white-very light cream, as above	
		10	<u>Sand</u> , light gray, as above	
4610	4615	70	<u>Sand</u> , light gray-white, very fine-fine, fair sorted, sub-rounded-sub-angular, very slightly calcareous, friable, silty in part	
		30	<u>Shale</u> , gray, green, brown, dark reddish brown, hard-firm, silty in part	

DITCH SAMPLES

Examined by Thurber 4615 to 4665
_____ to _____Well. Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4615	4625	10	<u>Sand</u> , as above	
		10	<u>Sand</u> , white, fine-medium, as above	
		80	<u>Shale</u> , predominantly gray brown and dark gray green, occasionally red brown, very silty in part, firm, non-calcareous-slightly calcareous	
4625	4630	20	<u>Sand</u> , light gray, fine-very fine, fair-poor sorted, sub-rounded-sub-angular, calcareous, friable, with black specks	
		10	<u>Sand</u> , light gray-gray, very fine, silty in part, very friable, well sorted, slightly calcareous	
		10	<u>Siltstone</u> , gray, sandy	
		60	<u>Shale</u> , abundant gray, dark gray, gray brown, gray green, dark brown, occasionally purple and red, very silty in part, as above, (<u>Shale</u> has brown mineral fluorescence)	
4630	4635	50	<u>Sand</u> , light gray, fine-very fine, as above	
		10	<u>Sand</u> , light gray-gray, as above	
		40	<u>Shale</u> , as above	
4635	4640	10	<u>Limestone</u> , cream-tan, oolitic in part, I VFA, (brown mineral fluorescence)	
		30	<u>Sand</u> , light gray, as above	
		20	<u>Sand</u> , light gray-gray, as above	
		40	<u>Shale</u> , as above	
		Tr	<u>Siltstone</u> , brown, sandy, <u>with brown oil stain, yellow fluorescence and good milky white cut fluorescence</u>	
4640	4650	60	<u>Sand</u> , light gray, as above	
		10	<u>Sand</u> , light gray-gray, as above, grading to gray sandy siltstone	
		30	<u>Shale</u> , as above, abundant dark brown-black	
4650	4655	70	<u>Sand</u> , light gray-gray, fine-very fine, fair-good cemented, sub-rounded, fair sorted, slightly calcareous, occasional green and pink grains, with black and brown inclusions	
		20	<u>Shale</u> , as above, with abundant gray, dark gray and gray green	
		10	<u>Siltstone</u> , gray, gray green, grading to sand, firm-hard, slightly calcareous	
4655	4660	80	<u>Sand</u> , as above	
		10	<u>Shale</u> , as above	
		10	<u>Siltstone</u> , as above	
4660	4665	70	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above	
		10	<u>Shale</u> , as above	

DITCH SAMPLES

Examined by Thurber 4665 to 4715
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4665	4670	80	<u>Sand</u> , as above	
		20	<u>Shale</u> , as above	
4670	4675	60	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above, almost a very fine <u>sand</u>	
		20	<u>Shale</u> , as above	
4675	4680	40	<u>Siltstone</u> , gray-light gray, firm, slightly calcareous, grading from <u>sand</u>	
		20	<u>Sand</u> , light gray, fine-very fine, as above	
		40	<u>Shale</u> , gray-dark gray, gray brown, gray green, soft-firm, non-calcareous-very slightly calcareous	
4680	4685	30	<u>Sand</u> , light gray-gray, very fine, occasionally fine, very slightly calcareous, sub-rounded, well sorted, well cemented with black and brown specks	
		20	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , as above	
4685	4690	10	<u>Sand</u> , as above	
		10	<u>Siltstone</u> , as above	
		80	<u>Shale</u> , as above, with abundant red-red brown, soft-firm, non-calcareous	
4690	4695	20	<u>Sand</u> , white, medium-fine, sub-rounded-sub-angular, poorly sorted, friable, occasional green and pink grains, non-calcareous, with black and brown specks	
		10	<u>Sand</u> , as above	
		10	<u>Siltstone</u> , as above, with abundant gray, brown, sandy	
		60	<u>Shale</u> , as above	
4695	4705	70	<u>Sand</u> , white, as above	
		10	<u>Siltstone</u> , as above	
		20	<u>Shale</u> , as above with abundant dark brown-brown black, soft, non-calcareous	
4705	4710	10	<u>Limestone</u> , tan, I VFA, argillaceous	
		10	<u>Sand</u> , as above, grading to very fine	
		10	<u>Siltstone</u> , as above	
		70	<u>Shale</u> , as above	
4710	4715	70	<u>Siltstone</u> , light-dark gray, grading from sand, slightly calcareous, hard-firm, very sandy	
		10	<u>Sand</u> , as above	
		20	<u>Shale</u> , as above	

DITCH SAMPLES

Examined by Thurber 4715 to 4765
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4715	4720	60	<u>Sand</u> , light gray-gray, very fine, occasionally fine, well sorted, well cemented, silty in part, slightly calcareous, abundant black specks	
		40	<u>Shale</u> , gray-dark gray, gray brown, soft-firm, non-calcareous	
4720	4725	20	<u>Sand</u> , as above	
		50	<u>Sand</u> , white-light gray, fine, occasionally very fine, fair sorted, friable, slightly calcareous, sub-rounded-sub-angular, with black and brown specks	
		30	<u>Shale</u> , as above	
4725	4730	70	<u>Sand</u> , white-light gray, fine, as above	
		10	<u>Sand</u> , light tan, fine-very fine, occasionally medium, sub-angular, very calcareous, fair cemented, poor sorted, dark brown inclusions	
		20	<u>Shale</u> , as above	
4730	4735	30	<u>Sand</u> , white-light gray, as above	
		60	<u>Sand</u> , light tan, as above	
		10	<u>Marlstone</u> , white, calcareous	
4735	4740	80	<u>Sand</u> , white-light gray, as above	
		10	<u>Sand</u> , light tan, as above	
		10	<u>Marlstone</u> , as above	
4740	4745	60	<u>Siltstone</u> , gray-dark gray, very sandy in part, non-calcareous-slightly calcareous, firm-friable	
		20	<u>Sand</u> , white, light gray, as above	
		20	<u>Shale</u> , as above	
4745	4750	70	<u>Siltstone</u> , as above	
		10	<u>Sand</u> , as above, occasionally firm-medium	
		20	<u>Shale</u> , abundant, gray, red brown, gray green, silty in part	
		Tr	<u>Marlstone</u> , as above	
4750	4760	50	<u>Sand</u> , light gray-gray, very fine, calcareous, sub-rounded, well cemented, well sorted, hard, with black and brown specks	
		20	<u>Siltstone</u> , as above	
		30	<u>Shale</u> , as above, abundant dark brown-brown black	
		Tr	<u>Limestone</u> , tan, I VFA, argillaceous in part	
4760	4765	40	<u>Sand</u> , light gray-gray tan, fine-very fine, non-calcareous, sub-angular, well cemented, poor sorted, with black and brown specks	
		10	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above	
		30	<u>Shale</u> , abundant gray green and red orange, soft, non-calcareous-slightly calcareous	

DITCH SAMPLES

Examined by Thurber 4765 to 4825
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4765	4770	30	<u>Sand</u> , light gray-gray tan, as above	
		20	<u>Sand</u> , tan, very fine, calcareous, well sorted, sub-rounded, friable	
		10	<u>Marlstone</u> , as above	
		40	<u>Shale</u> , as above	
4770	4775	100	<u>Sand</u> , light gray tan, very fine, occasionally fine, calcareous, sub-rounded-sub-angular, fair sorted, fair cemented, black and brown specks	
4775	4780	70	<u>Siltstone</u> , gray-gray brown, calcareous, firm, almost a <u>sand</u>	
		10	<u>Sand</u> , as above	
		20	<u>Shale</u> , as above, with abundant gray brown, gray, gray green, maroon, soft-firm	
4780	4785	30	<u>Sand</u> , light gray-tan, as above	
		40	<u>Siltstone</u> , as above, with abundant light gray, very sandy	
		30	<u>Shale</u> , as above	
4785	4790	20	<u>Siltstone</u> , brown-dark brown, very calcareous, argillaceous, hard, with black inclusions	
		10	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , gray-gray brown, as above	
		50	<u>Shale</u> , as above with occasional bright red purple	
4790	4795	30	<u>Sand</u> , tan-brown, very fine, hard, very calcareous, well sorted, sub-angular	
		10	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , gray-gray brown, as above	
		40	<u>Shale</u> , as above	
4795	4800	20	<u>Sand</u> , light gray, very fine-fine, slightly calcareous, fair sorted, fair cemented, sub-rounded	
		20	<u>Siltstone</u> , gray-gray brown, very sandy in part	
		60	<u>Shale</u> , gray, dark gray, gray green, gray brown, occasionally maroon and orange red, non-calcareous-slightly calcareous	
4800	4805	10	<u>Sand</u> , as above	
		90	<u>Shale</u> , as above	
4805	4810	10	<u>Sand</u> , as above	
		90	<u>Shale</u> , as above, with abundant green-light green, silty in part	
		Tr	<u>Limestone</u> , tan-brown, I VFA	
4810	4825	30	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , gray, very sandy	
		50	<u>Shale</u> , as above	

DITCH SAMPLES

Examined by Thurber 4825 to 4875
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4825	4830	40	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above	
4830	4835	30	<u>Sand</u> , as above	
		30	<u>Siltstone</u> , as above with occasional gray brown, sandy	
		40	<u>Shale</u> , as above	
4835	4840	10	<u>Sand</u> , as above	
		90	<u>Shale</u> , gray, dark gray, gray brown, gray green, non-calcareous, soft-firm	
4840	4845	40	<u>Sand</u> , light gray, very fine-fine, as above	
		60	<u>Shale</u> , as above	
4845	4850	70	<u>Sand</u> , as above	
		30	<u>Shale</u> , as above	
4850	4855	70	<u>Sand</u> , light gray, as above, fine and very fine, slightly calcareous, friable-firm	
		30	<u>Shale</u> , as above	
4855	4860	100	<u>Sand</u> , white-light gray, fine-medium, sub-rounded-sub-angular, slightly calcareous, fair-good cemented, fair sorted, with varicolored grains, black inclusions	
4860	4865	10	<u>Sand</u> , light gray, as above	
		10	<u>Sand</u> , white-light gray, as above	
		70	<u>Siltstone</u> , brown, dark red brown, gray, gray green, very argillaceous, hard, slightly calcareous	
		10	<u>Shale</u> , as above	
4865	4870	20	<u>Sand</u> , light gray, as above	
		10	<u>Sand</u> , white-light gray, as above	
		50	<u>Siltstone</u> , as above, almost a <u>shale</u>	
		10	<u>Shale</u> , as above	
		10	<u>Limestone</u> , purple and tan, I VFA, hard	
4870	4875	40	<u>Siltstone</u> , light-gray-gray, gray brown-gray green, very sandy, firm-hard, calcareous-very calcareous, with occasional <u>yellow fluorescence and fair-good milky white cut fluorescence</u>	
		10	<u>Siltstone</u> , as above	
		20	<u>Sand</u> , light gray, as above	
		30	<u>Shale</u> , as above, abundant dark gray and gray green (<u>Shale</u> has occasional yellow brown mineral fluorescence)	

DITCH SAMPLES

Examined by Thurber 4875 to 4935
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4875	4885	40	<u>Sand</u> , white, fine, occasionally medium, fair sorted, fair cemented, slightly calcareous, varicolored grains	
		20	<u>Sand</u> , light gray-light gray tan, very fine, well sorted, calcareous, fair cemented	
		20	<u>Siltstone</u> , light gray-gray, as above	
		20	<u>Shale</u> , as above	
4885	4890		As above with trace <u>limestone</u> , tan, fossiliferous, I VFA	
4890	4900	10	<u>Coal</u> , black	
		40	<u>Sand</u> , light, gray, very fine, occasionally fine, non-calcareous, silty in part, well sorted, sub-rounded, fair-good cemented	
		20	<u>Siltstone</u> , gray-brown, sandy in part, hard-firm	
		20	<u>Shale</u> , as above	
		10	<u>Limestone</u> , tan-purple, I VFA, hard	
4900	4910	20	<u>Sand</u> , as above	
		10	<u>Limestone</u> , tan-cream, I/II VFA-I VFA	
		30	<u>Siltstone</u> , light gray-gray and brown-red brown, sandy in part, argillaceous in part, occasionally abundant pyrite, <u>brown siltstone has occasional yellow fluorescence and good milky white cut fluorescence</u>	
		40	<u>Shale</u> , as above (<u>Limestone</u> and <u>shale</u> have occasional yellow brown mineral fluorescence)	
4910	4915	40	<u>Sand</u> , as above	
		10	<u>Limestone</u> , as above	
		10	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above	
4915	4920		As above, with trace tan sandy <u>siltstone</u> , with brown oil stain, <u>brown fluorescence, good milky white-yellow cut fluorescence</u>	
4920	4925	20	<u>Coal</u> , black	
		10	<u>Sand</u> , as above	
		10	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , as above	
4925	4930	70	<u>Sand</u> , light gray, very fine, occasionally fine, non-calcareous-slightly calcareous, sub-rounded, fair-good cemented, fair sorted with black and brown specks	
		20	<u>Shale</u> , as above	
		10	<u>Siltstone</u> , as above	
4930	4935	20	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , as above	

DITCH SAMPLES

Examined by Thurber 4935 to 5025
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
4935	4940	10	<u>Coal</u> , as above	
		20	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , abundant gray-dark gray	
4940	4945	30	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , gray-gray brown, argillaceous, soft-firm	
		50	<u>Shale</u> , as above	
4945	4950	80	<u>Sand</u> , light, very fine, sub-rounded, slightly calcareous, fair-good sorted, friable, black and brown specks	
		10	<u>Siltstone</u> , as above	
		10	<u>Shale</u> , as above	
4950	4955		As above, with trace <u>coal</u> , black	
4955	4960	20	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , as above	
4960	4970	30	<u>Sand</u> , as above	
		40	<u>Siltstone</u> , as above, sandy in part, grading to <u>sand</u>	
		30	<u>Shale</u> , as above, occasional red and purple	
4970	4975	100	<u>Sand</u> , light gray-white, very fine-fine, very slightly calcareous, sub-rounded, fair sorted, friable, black and brown specks	
4975	4995	100	<u>Sand</u> , as above, only more fine grained, with occasional medium grains, friable with difficulty, <u>trace deak black oil</u> , no fluorescence or cut fluorescence	
4995	5000	50	<u>Sand</u> , as above	
		10	<u>Siltstone</u> , gray, as above	
		40	<u>Shale</u> , gray-gray brown-dark gray, as above	
5000	5015	90	<u>Sand</u> , white-light gray, medium-fine, occasionally coarse, sub-angular, fair-poor cemented, fair-poor sorted, very slightly calcareous, with black inclusions, weak crystalline porosity.	
		10	<u>Shale</u> , as above, occasionally gray green	
5015	5025	30	<u>Sand</u> , light gray, very fine, silty in part, friable, well sorted, slightly calcareous	
		40	<u>Siltstone</u> , gray, slightly calcareous, very sandy, soft and friable	
		10	<u>Sand</u> , as above	
		20	<u>Shale</u> , as above	

DITCH SAMPLES

Examined by Thurber 5025 to 5085
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5025	5030	20	<u>Sand</u> , light gray, very fine, as above	
		50	<u>Siltstone</u> , gray, as above, almost a <u>sand</u>	
		30	<u>Shale</u> , as above	
5030	5035	20	<u>Sand</u> , white-light gray, fine-very fine, sub-rounded-sub-angular, fair sorted, well cemented, slightly calcareous	
		10	<u>Sand</u> , light gray, as above	
		30	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above, with abundant gray-gray green	
5035	5040	10	<u>Limestone</u> , tan, I VFA	
		20	<u>Siltstone</u> , as above	
		10	<u>Sand</u> , light gray, very fine, as above	
		60	<u>Shale</u> , as above	
5040	5045	20	<u>Siltstone</u> , as above	
		80	<u>Shale</u> , as above	
5045	5060	90	<u>Sand</u> , light gray-white, fine, occasionally medium, non-calcareous, poor sorted, fair cemented, sub-angular, occasional pink and green grains, black and brown inclusions	
		10	<u>Shale</u> , as above	
5060	5065	20	<u>Sand</u> , light gray-white, very fine, occasionally fine, slightly calcareous, well sorted, fair cemented, sub-rounded	
		60	<u>Sand</u> , as above	
		20	<u>Shale</u> , as above	
5065	5070	60	<u>Sand</u> , very fine, as above	
		20	<u>Sand</u> , fine, as above	
		20	<u>Shale</u> , as above	
5070	5075	30	<u>Siltstone</u> , light gray-dark gray, very sandy in part, very slightly calcareous, firm	
		40	<u>Shale</u> , gray-dark gray brown, soft-firm, non-calcareous-slightly calcareous	
		20	<u>Sand</u> , very fine, as above	
		10	<u>Sand</u> , fine, as above	
5075	5085	80	<u>Sand</u> , light gray-gray, very fine, rarely fine, very silty in part, grading from <u>siltstone</u> above, well sorted, well cemented, sub-rounded	
		10	<u>Siltstone</u> , as above	
		10	<u>Shale</u> , as above	

DITCH SAMPLES

Examined by Thurber 5085 to 5145
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5085	5090	80	<u>Sand</u> , light gray, fine-very fine, slightly calcareous, fair cemented, fair sorted, light brown and green grains, sub-rounded-sub-angular, black and brown specks	
		10	<u>Sand</u> , very fine, as above	
		10	<u>Shale</u> , as above	
5090	5095	100	<u>Sand</u> , gray, very fine, very silty, poor cemented, well sorted, sub-rounded, slightly calcareous	
5095	5100	50	<u>Sand</u> , as above, grading to siltstone	
		20	<u>Siltstone</u> , gray, as above	
		30	<u>Shale</u> , as above	
5100	5105	30	<u>Sand</u> , gray, as above	
		40	<u>Siltstone</u> , as above, very sandy	
		30	<u>Shale</u> , as above, with abundant dark brown, hard, non-calcareous, with rare calcite veins	
5105	5115	50	<u>Sand</u> , white-light gray, fine-medium, sub-angular, fair cemented, poor sorted, non-calcareous, black inclusions	
		30	<u>Marlstone</u> , white-light gray, soft, slightly calcareous	
		10	<u>Siltstone</u> , as above	
		10	<u>Shale</u> , as above	
5115	5120	100	<u>Sand</u> , brown-tan, fine-medium, slightly calcareous, sub-angular-angular, well cemented, poor sorted, black and brown inclusions with occasional green and red grains	
5120	5125	10	<u>Siltstone</u> , gray, as above	
		10	<u>Sand</u> , as above	
		80	<u>Shale</u> , gray-dark gray, gray green, soft-firm, non-calcareous-slightly calcareous, silty in part	
5125	5135	60	<u>Sand</u> , light gray, very fine silt, almost a siltstone, fair cemented, well sorted, slightly calcareous	
		20	<u>Siltstone</u> , light gray-gray, slightly calcareous	
		20	<u>Shale</u> , as above	
		Tr	<u>Limestone</u> , tan, siliceous, hard, I VFA	
		Tr	<u>Coal</u> , brown-black	
5135	5145	40	<u>Siltstone</u> , gray, as above and light green, friable-firm, non-calcareous, occasionally brown	
		60	<u>Shale</u> , abundant gray-dark gray, brown-gray brown with occasional red and purple, soft-firm, non-calcareous-slightly calcareous	
		Tr	<u>Limestone</u> , tan-pink, I VFA	

DITCH SAMPLES

Examined by Thurber 5145 to 5195
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5145	5150	20	<u>Sand</u> , light gray-white, fine-very fine	(Poor samples, abundant cavings)
		30	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , as above	
5150	5155	10	<u>Sand</u> , as above	
		30	<u>Sand</u> , white-light gray, very fine, non-calcareous, well sorted, friable, sub-rounded (Poor sample, as above)	
		20	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above	
5155	5170	10	<u>Limestone</u> , tan, I VFA	
		10	<u>Sand</u> , white-light gray, as above, slightly calcareous	
		10	<u>Sand</u> , light gray, fine-very fine, sub-rounded, slightly calcareous, fair cemented, fair sorted	
		20	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , as above with abundant red, purple, gray, gray green, occasional yellow mottling, soft-firm	
5170	5175	10	<u>Limestone</u> , as above	
		40	<u>Siltstone</u> , gray-gray brown, sandy	
		10	<u>Sand</u> , white-light gray, very fine, as above	
		40	<u>Shale</u> , as above	
5175	5180	20	<u>Coal</u>	
		10	<u>Sand</u> , as above	
		30	<u>Siltstone</u> , as above, occasional dark brown-brown, hard	
		40	<u>Shale</u> , as above, with abundant dark brown, soft, non-calcareous	
5180	5195	50	<u>Sand</u> , light gray-gray, very fine, silty in part, slightly calcareous, fair cemented, well sorted	
		20	<u>Siltstone</u> , light gray-gray, occasional gray brown, sandy in part	
		30	<u>Shale</u> , as above	
		Tr	<u>Limestone</u> , as above	
		Tr	<u>Coal</u> , as above	

DITCH SAMPLES

Examined by Thurber 5195 to 5340
_____ to _____Well Southman Canyon Unit #8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5195	5200	30	<u>Sand</u> , as above.	
		30	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above, with abundant maroon and red.	
		Tr.	<u>Coal</u> , as above.	
5200	5205	70	<u>Siltstone</u> , light gray-gray-grayish brown, firm, very sandy, in part, slightly calcareous.	
		10	<u>Sand</u> , light gray, very fine-fine, slightly calcareous, silty in part.	
		20	<u>Shale</u> , abundant gray green, gray, maroon, reddish brown, occasional yellow mottled, noncalcareous-slightly calcareous.	
5205	5215	20	<u>Sand</u> , as above.	
		30	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above, abundant dark grayish brown, silty, noncalcareous.	
5125	5220	30	<u>Sand</u> , white-light gray, fine-very fine, slightly calcareous, friable, fair sorting, subangular-subround, black and brown specks.	
		20	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above.	
		Tr.	<u>Coal</u> , black.	
		Tr.	<u>Limestone</u> , tan, IVFA, fossiliferous.	
5220	5225	70	<u>Siltstone</u> , tan-grayish brown, noncalcareous, friable, very sandy in part.	
		10	<u>Sand</u> , as above.	
		20	<u>Shale</u> , as above.	
		Tr.	<u>Limestone</u> , as above.	
5225	5235	50	<u>Sand</u> , light gray-gray, very fine-silty, very silty, noncalcareous, friable, with occasional pyrite and black carbonaceous material.	
		10	<u>Sand</u> , as above.	
		30	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above.	
		Tr.	<u>Limestone</u> , white, IVFA.	
		Tr.	<u>Coal</u> , as above.	
		Tr.	<u>Sand</u> , gray, very hard, siliceous, fused with brown oil stain, <u>yellow fluorescence and good yellow cut fluorescence.</u>	
5235	5250	100	<u>Sand</u> , light gray, fine-very fine, subround-subangular, noncalcareous, slightly calcareous, fair-poor cementing, fair-poor sorting, argillaceous, occasional green and pink grains, black and brown specs.	
5250	5260	100	<u>Sand</u> , white-light gray, fine, occasionally micaceous, friable with difficulty, poor sorting, otherwise as above, <u>with spotty light blue-green fluorescence, very faint blue white cut fluorescence.</u>	

DITCH SAMPLES

Examined by Thurber 5260 to 5395
_____ to _____Well Southman Canyon Unit #8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5260	5290	100	<u>Sand</u> , as above, except more fine-very fine, occasionally light brown stain (20%), <u>with fluorescence and cut fluorescence, as above.</u>	
5290	5305	30	<u>Siltstone</u> , gray-grayish green.	
		20	<u>Shale</u> , gray-grayish brown.	
		50	<u>Sand</u> , as above, with abundant brown staining, as above,, stain has no fluorescence or cut fluorescence.	
5305	5325	10	<u>Limestone</u> , light tan-white, IVFA, argillaceous.	
		10	<u>Sand</u> , as above.	
		80	<u>Shale</u> , red, lavender, yellow, green, gray and grayish-brown and grayish green, occasional mottling, firm-soft, noncalcareous.	
5325	5340	20	<u>Sand</u> , as above.	
		10	<u>Siltstone</u> , gray, soft, noncalcareous, very argillaceous.	
		70	<u>Shale</u> , as above, occasionally light gray-light cream.	
		Tr.	<u>Limestone</u> , as above.	
5340	5360	20	<u>Sand</u> , white, fine-very fine, slightly calcareous, poor cementing, fair sorting, subround.	
		20	<u>Siltstone</u> , gray-brown, argillaceous.	
		60	<u>Shale</u> , as above, occasionally slightly calcareous, varicolored, as above.	
		Tr.	<u>Limestone</u> , tan-brown, fossiliferous in part, IVFA.	
5360	5365	10	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above with abundant green-grayish green, very argillaceous.	
		70	<u>Shale</u> , as above.	
5365	5370	30	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above, abundant gray-grayish brown-grayish green.	
5370	5375	10	<u>Sand</u> , as above.	
		90	<u>Shale</u> , as above, silty in part.	
5375	5380	70	<u>Sand</u> , as above, only more fine grains, occasionally mottled.	
		30	<u>Shale</u> , as above.	
		Tr.	<u>Limestone</u> , tan, as above.	
5380	5385	70	<u>Sand</u> , as above, only more fine grains, occasionally mottled.	
		30	<u>Shale</u> , as above.	
		Tr.	<u>Limestone</u> , tan, as above.	
5385	5395	90	<u>Sand</u> , as above.	
		10	<u>Shale</u> , as above.	

DITCH SAMPLES

Examined by Thurber 5395 to 5490
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5395	5410	90	<u>Sand</u> , as above, only more fine-very fine grains.	
		10	<u>Shale</u> , as above.	
5410	5415	80	<u>Sand</u> , as above.	
		20	<u>Shale</u> , abundant, red, green, gray, gray green, purple and yellow.	
5415	5425	50	<u>Sand</u> , as above.	
		50	<u>Shale</u> , as above.	
5425	5440	20	<u>Sand</u> , as above.	
		10	<u>Siltstone</u> , gray-dark gray brown, soft, non-calcareous.	
		60	<u>Shale</u> , vari-colored, as above, soft-firm, non-calcareous.	
		10	<u>Limestone</u> , brown, IVFA, occasionally fossiliferous.	
5440	5445	30	<u>Sand</u> , white, slightly calcareous, very fine-fine, well sorted, well cemented.	
		10	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , as above, abundant gray-gray green.	
5445	5450	20	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , as above.	
5450	5460	20	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , brown-gray brown, sandy, friable, slightly calcareous.	
		60	<u>Shale</u> , abundant gray, gray brown, gray green, firm-soft, non-calcareous - slightly calcareous.	
		Tr.	<u>Limestone</u> , tan-brown, IVFA.	
5460	5475	50	<u>Sand</u> , light gray brown, very fine, occasionally fine, calcareous, well cemented, well sorted, silty in part.	
		30	<u>Siltstone</u> , as above.	
		20	<u>Shale</u> , as above.	
5475	5480	80	<u>Sand</u> , light gray-light gray brown, fine, occasionally very fine, fair cementing, fair sorting, sub-rounded - subangular, slightly calcareous, with black and brown specks, occasional trace brown stain, <u>5% light blue green fluorescence, fair and light blue-white cut fluorescence.</u>	
		20	<u>Shale</u> , as above, with occasional red brown, hard, silty, slightly calcareous.	
5480	5485		No Sample.	
5485	5490	90	<u>Sand</u> , as above. <u>50% fluorescence and cut fluorescence, as above.</u>	
		10	<u>Shale</u> , as above.	

DITCH SAMPLES

Examined by Thurber 5490 to 5580
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5490	5495	100	<u>Sand</u> , as above, except more gray brown, very fine-fine, calcareous, well cemented. <u>70% fluorescence and cut fluorescence, as above.</u>	
5495	5510	100	<u>Sand</u> , light gray, fine, occasionally very fine, as above. <u>80% fluorescence and cut fluorescence, as above.</u>	
5510	5515	80	<u>Sand</u> , as above.	
		10	<u>Siltstone</u> , brown-gray, non-calcareous, sandy, soft. <u>40% fluorescence and cut fluorescence, as above.</u>	
		10	<u>Shale</u> , as above.	
5515	5520	70	<u>Sand</u> , as above. <u>30% fluorescence and cut fluorescence.</u>	
		20	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above.	
5520	5545	80	<u>Sand</u> , light gray, fine-very fine, slightly calcareous, friable with difficulty, fair sorting, subrounded-subangular with black and brown specks, <u>occasional brown oil stain, 20% fluorescence and cut fluorescence, as above.</u>	
		10	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above.	
5545	5550	90	<u>Sand</u> , as above. <u>10% fluorescence and cut fluorescence, as above.</u>	
		10	<u>Siltstone</u> , gray-dark gray-brown, argillaceous in part, soft-firm, non-calcareous.	
5550	5555	70	<u>Sand</u> , as above. <u>5% fluorescence and cut fluorescence, as above.</u>	
		20	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above.	
5555	5565	60	<u>Sand</u> , as above. <u>5% fluorescence and cut fluorescence, as above.</u>	
		20	<u>Siltstone</u> , as above.	
		20	<u>Shale</u> , as above, with abundant red, purple and gray green.	
		Tr.	<u>Limestone</u> , tan-white, IVFA	
		Tr.	<u>Coal</u> , black.	
5565	5570	50	<u>Sand</u> , as above, with rare fine-medium grains. <u>3% fluorescence and cut fluorescence, as above.</u>	
		20	<u>Siltstone</u> , as above.	
		30	<u>Shale</u> , as above.	
5570	5580	40	<u>Sand</u> , as above. <u>3% fluorescence and cut fluorescence, as above.</u>	
		20	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above, with occasional yellow.	

DITCH SAMPLES

Examined by Thurber 5580 to 5640
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5580	5585	40	<u>Sand</u> , as above. <u>3% fluorescence and cut fluorescence</u> , as above.	
		20	<u>Siltstone</u> , as above, with occasional red brown, hard, non-calcareous.	
		40	<u>Shale</u> , as above.	
5585	5590	60	<u>Sand</u> , light gray, very fine-fine, slightly calcareous, round-subrounded, fair cementing, well sorted, occasional black and brown specks, with occasional sand, white-light gray, fine, as above. <u>Trace fluorescence and cut fluorescence</u> , as above.	
		10	<u>Siltstone</u> , as above.	
		30	<u>Shale</u> , as above.	
5590	5600	80	<u>Sand</u> , as above. <u>Trace fluorescence and cut fluorescence</u> , as above.	
		10	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above, with trace blue green.	
5600	5605	70	<u>Sand</u> , as above. <u>Trace fluorescence and cut fluorescence</u> , as above.	
		10	<u>Siltstone</u> , as above.	
		20	<u>Shale</u> , abundant gray, gray green and green.	
5605	5610	50	<u>Sand</u> , light gray-light tan, fine, occasionally very fine, slightly calcareous, fair-well cementing, fair sorting, black and brown specks.	
		10	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above, with abundant brown-gray brown, non-calcareous, soft.	
5610	5615	40	<u>Sand</u> , as above.	
		30	<u>Siltstone</u> , gray-dark gray brown, slightly calcareous, soft-firm, argillaceous.	
		30	<u>Shale</u> , as above.	
5615	5625	30	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above.	
5625	5630	20	<u>Sand</u> , as above, except more white-light gray.	
		30	<u>Siltstone</u> , as above, occasionally slightly sandy.	
		50	<u>Shale</u> , as above.	
5630	5635	10	<u>Sand</u> , as above.	
		50	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above.	
5635	5640	10	<u>Limestone</u> , light tan-cream, IVFA, argillaceous.	
		40	<u>Sand</u> , light gray, fine-very fine, very slightly calcareous, subangular, poor-fair cementing, fair sorting, black and brown specks with occasional black carbonaceous material.	
		30	<u>Siltstone</u> , brown-dark gray brown, very sandy, almost a sand.	
		20	<u>Shale</u> , as above.	

DITCH SAMPLES

Examined by Thurber 5640 to 5700
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5640	5645	60	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		20	<u>Shale</u> , as above.	
5645	5650	30	<u>Sand</u> , as above.	
		30	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above.	
5650	5655	10	<u>Coal</u> .	
		20	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above.	
5655	5665	30	<u>Sand</u> , white-light gray, very fine-fine, slightly calcareous, subrounded, fair cementing, fair sorting.	
		10	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , as above, with abundant dark gray brown, non-calcareous, soft-firm.	
5665	5675	30	<u>Sand</u> , as above, occasional tan and more fine-very fine.	
		20	<u>Siltstone</u> , brown-gray, firm.	
		50	<u>Shale</u> , as above, with occasional light green and gray green.	
5675	5680	20	<u>Sand</u> , as above.	
		10	<u>Sand</u> , light gray, very fine, very slightly calcareous, well cemented, well sorted.	
		10	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , abundant gray, dark gray, gray green and green with occasional red, purple, tan and yellow.	
5680	5685	20	<u>Sand</u> , white-light gray, fine-very fine, as above.	
		20	<u>Sand</u> , light gray, very fine, as above.	
		10	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above.	
5685	5690	10	<u>Limestone</u> , brown-dark brown, IVFA, hard.	
		10	<u>Sand</u> , light gray, as above.	
		30	<u>Sand</u> , white-light gray, as above.	
		10	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above.	
5690	5695	30	<u>Sand</u> , white-light gray, as above.	
		50	<u>Siltstone</u> , brown-gray, firm-soft, argillaceous in part, slight sandy in part.	
		20	<u>Shale</u> , as above.	
5695	5700	20	<u>Sand</u> , as above.	
		50	<u>Siltstone</u> , as above.	
		30	<u>Shale</u> , as above.	

DITCH SAMPLES

Examined by Thurber 5700 to 5775
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5700	5705	20	<u>Sand</u> , tan, very fine, fair-good cementing, well sorted, subrounded.	
		10	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above.	
5705	5710	50	<u>Sand</u> , light tan, very fine, as above.	
		10	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above.	
5710	5720	80	<u>Sand</u> , light tan-tan gray, very fine-fine, slightly calcareous-calcareous, fair cementing, well sorted, subrounded, occasional brown stain, no fluorescence or cut fluorescence.	
		10	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above.	
5720	5725	30	<u>Sand</u> , as above.	
		10	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , as above, with abundant dark gray brown.	
5725	5735	60	<u>Shale</u> , abundant dark brown-brown black, soft, non-calcareous, carbonaceous.	
		30	<u>Sand</u> , as above.	
		10	<u>Siltstone</u> , brown-gray, soft-firm.	
5735	5740	20	<u>Sand</u> , white, very fine and fine, slightly calcareous, poor cementing, well sorted.	
		20	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , as above.	
5740	5755	20	<u>Sand</u> , as above, occasional light tan, very fine, calcareous, hard, tight.	
		40	<u>Siltstone</u> , brown-brown gray, slightly calcareous, sandy, hard.	
		40	<u>Shale</u> , as above, with occasional light green light gray, slightly calcareous, silty, soft.	
5755	5760	10	<u>Sand</u> , light gray tan, fine, subangular-angular, well cemented, fair sorting, friable with difficulty, with black and brown specks, tight, <u>dull very pale gold fluorescence, no cut fluorescence.</u>	
		10	<u>Sand</u> , as above.	
		40	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above, occasional maroon, abundant carbonaceous shale.	
5760	5770	90	<u>Sand</u> , light gray tan, fine, as above. <u>Fluorescence as above, no cut fluorescence.</u>	
		10	<u>Shale</u> , as above.	
5770	5775	70	<u>Sand</u> , as above.	
		20	<u>Shale</u> , gray brown-dark gray brown, carbonaceous in part.	
		10	<u>Siltstone</u> , as above.	
		Tr.	<u>Coal</u> .	

DITCH SAMPLES

Examined by Thurber 5775 to 5840
_____ to _____Well. Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5775	5780	50	<u>Sand</u> , light gray-light gray cream, very fine, calcareous, subrounded-subangular, well sorted, well cemented, hard, tight, <u>fluorescence as above, no cut fluorescence.</u>	
		20	<u>Sand</u> , as above, <u>fluorescence as above, no cut fluorescence.</u>	
		20	<u>Shale</u> , occasional gray green, silty.	
		10	<u>Siltstone</u> , as above.	
5780	5785	30	<u>Sand</u> , light gray, very fine, as above.	
		20	<u>Sand</u> , light gray tan, fine, as above.	
		30	<u>Shale</u> , as above.	
		20	<u>Siltstone</u> , as above.	
5785	5795	50	<u>Sand</u> , light gray, very fine, as above.	
		10	<u>Sand</u> , as above, fine.	
		10	<u>Siltstone</u> , as above.	
		30	<u>Shale</u> , as above.	
5795	5810	90	<u>Sand</u> , very light tan, very fine-fine, calcareous, well cemented, well sorted, subangular-subrounded, hard, tight, <u>pale gold fluorescence, as above, no cut fluorescence.</u>	
		10	<u>Shale</u> , as above.	
5810	5815	80	<u>Sand</u> , as above.	
		20	<u>Shale</u> , as above.	
5815	5820	30	<u>Sand</u> , as above.	
		70	<u>Shale</u> , gray, dark gray, gray green, soft, non-calcareous, carbonaceous in part.	
		Tr.	<u>Coal</u> , black.	
5820	5825	10	<u>Sand</u> , as above.	
		10	<u>Siltstone</u> , gray-brown, non-calcareous, argillaceous.	
		80	<u>Shale</u> , as above.	
5825	5830	20	<u>Sand</u> , as above.	
		10	<u>Sand</u> , white-light gray, very fine-fine, slightly calcareous, well cemented, good-fair sorting, subrounded-subangular.	
		10	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , as above.	
5830	5835	10	<u>Sand</u> , as above.	
		20	<u>Sand</u> , white-light gray, as above.	
		70	<u>Shale</u> , as above.	
5835	5840	10	<u>Sand</u> , white-light gray, as above.	
		90	<u>Shale</u> , as above, with occasional green, maroon, light green, red and tan.	

DITCH SAMPLES

Examined by Thurber 5840 to 5905
_____ to _____Well Southmen Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5840	5845	20	<u>Sand</u> , as above, except more fine grains.	
		80	<u>Shale</u> , as above.	
5845	5850	30	<u>Siltstone</u> , tan-brown, non-calcareous, very sandy in part, friable.	
		20	<u>Sand</u> , as above.	
		10	<u>Sand</u> , light tan, very fine, silty, non-calcareous, grading to siltstone.	
		40	<u>Shale</u> , as above.	
5850	5855	50	<u>Siltstone</u> , as above.	
		20	<u>Sand</u> , light tan, as above.	
		10	<u>Sand</u> , white-light gray, as above.	
		20	<u>Shale</u> , as above.	
5855	5860	30	<u>Sand</u> , white-light gray, very fine, slightly calcareous, well cemented, well sorted.	
		20	<u>Sand</u> , light tan, as above.	
		20	<u>Siltstone</u> , as above.	
		30	<u>Shale</u> , as above.	
5860	5870	20	<u>Sand</u> , white-light gray, very fine, as above.	
		80	<u>Shale</u> , as above, with abundant gray-dark gray, gray green, carbonaceous in part.	
		Tr.	<u>Limestone</u> , tan, IVFA.	
5870	5875	40	<u>Siltstone</u> , brown and gray brown, very sandy in part, slightly calcareous, firm-soft.	
		20	<u>Sand</u> , as above.	
		40	<u>Shale</u> , as above.	
5875	5880	30	<u>Siltstone</u> , as above.	
		70	<u>Shale</u> , as above.	
5880	5890	20	<u>Sand</u> , light gray-gray tan, very fine, slightly calcareous, well sorted, well cemented.	
		50	<u>Siltstone</u> , brown and gray brown, very sandy, slightly calcareous, hard, almost a sand.	
		30	<u>Shale</u> , as above.	
5890	5900	10	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		70	<u>Shale</u> , abundant dark gray-gray, carbonaceous, as above, occasionally light green.	
5900	5905	20	<u>Sand</u> , light gray-light tan, very fine, as above.	
		20	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , as above, occasional gray green.	

DITCH SAMPLES

Examined by Thurber 5905 to 5965
_____ to _____Well. Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5905	5910	30	<u>Sand</u> , tan, very fine, slightly calcareous, well cemented, well sorted, round. (Trip sample)	
		10	<u>Siltstone</u> , as above.	
		60	<u>Shale</u> , as above.	
5910	5915	10	<u>Sand</u> , as above.	
		10	<u>Siltstone</u> , as above.	
		80	<u>Shale</u> , dark gray, carbonaceous and gray green, gray brown, light gray, soft, non-calcareous.	
5915	5925	10	<u>Limestone</u> , orange-gray, IVFA, siliceous, hard.	
		20	<u>Sand</u> , white, fine, occasionally very fine, very slightly calcareous, well sorted, friable, round.	
		10	<u>Sand</u> , as above.	
		10	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above.	
		10	<u>Coal</u> , black.	
5925	5930	40	<u>Siltstone</u> , dark brown-gray, non-calcareous and slightly calcareous, hard, very argillaceous, grading from shale.	
		20	<u>Sand</u> , white, fine, as above, occasionally light tan.	
		40	<u>Shale</u> , light gray, gray green and gray, soft, non-calcareous, with occasional shale, brown-dark gray, silty, hard, slightly calcareous.	
5930	5940	20	<u>Sand</u> , as above, more very light tan.	
		30	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above, with abundant dark brown black, carbonaceous, non-calcareous, soft-firm.	
		Tr.	<u>Limestone</u> , light purple, siliceous, hard, IVFA.	
5940	5945	20	<u>Sand</u> , light tan, very fine, very slightly calcareous, well cemented, well sorted, very hard, tight.	
		10	<u>Sand</u> , white, as above.	
		40	<u>Siltstone</u> , as above, very argillaceous.	
		30	<u>Shale</u> , as above.	
5945	5950	10	<u>Sand</u> , light tan, as above.	
		10	<u>Sand</u> , white, as above.	
		50	<u>Siltstone</u> , as above.	
		30	<u>Shale</u> , as above.	
5950	5955	80	<u>Sand</u> , light gray-light gray tan, very fine, slightly calcareous, well cemented, well sorted, subrounded, very hard, tight.	
		10	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above.	
5955	5965		As above.	

DITCH SAMPLES

Examined by Thurber 5965 to 6035
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
5965	5970	10	<u>Sand</u> , as above.	
		90	<u>Shale</u> , dark brown black, light gray, gray green, green and brown, carbonaceous in part, silty in part, non-calcareous - calcareous, soft-firm.	
5970	5990	100	<u>Shale</u> , as above.	
		Tr.	<u>Coal</u> , black.	
5990	5995	50	<u>Siltstone</u> , dark brown-brown gray, slightly calcareous-calcareous, hard-firm, sandy.	
		10	<u>Sand</u> , as above.	
		40	<u>Shale</u> , as above.	
5995	6000	30	<u>Sand</u> , as above, occasional dark tan, very hard, silty in part, slightly calcareous, well sorted.	
		40	<u>Siltstone</u> , as above, grading to sand.	
		30	<u>Shale</u> , as above, occasional blue gray, blue green and light blue, soft-firm, slightly calcareous.	
6000	6005	50	<u>Sand</u> , as above, with abundant dark tan-brown, as above.	
		30	<u>Siltstone</u> , as above.	
		20	<u>Shale</u> , as above.	
6005	6010	20	<u>Coal and Lignite</u> , black.	
		20	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , abundant light gray green, gray brown and dark gray.	
6010	6015	20	<u>Coal</u> , as above.	
		10	<u>Sand</u> , as above.	
		30	<u>Siltstone</u> , dark brown, very argillaceous, soft-firm, non-calcareous.	
		40	<u>Shale</u> , as above, with abundant dark brown black, carbonaceous, soft, non-calcareous.	
6015	6025	10	<u>Sand</u> , white, fine, very slightly calcareous, subangular-subrounded, fair cementing, fair sorting.	
		10	<u>Sand</u> , as above.	
		10	<u>Coal</u> , as above.	
		30	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above.	
6025	6035	70	<u>Siltstone</u> , brown-dark gray brown, non-calcareous, hard-firm.	
		30	<u>Shale</u> , as above, with abundant dark brown black-black, very carbonaceous, soft, non-calcareous.	
		Tr.	<u>Sand</u> , tan, as above.	
		Tr.	<u>Limestone</u> , gray, very sandy, very hard.	

DITCH SAMPLES

Examined by Thurber 6035 to 6090
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6035	6040	40	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above.	
		10	<u>Coal</u> , as above.	
6040	6045	40	<u>Siltstone</u> , as above.	
		30	<u>Shale</u> , as above.	
		30	<u>Coal</u> , as above.	
6045	6050	10	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above.	
		80	<u>Coal</u> , as above.	
6050	6055	100	<u>Sand</u> , light tan, very fine, non-calcareous, round-subrounded, well sorted, fair cementing, hard.	
6055	6060	80	<u>Sand</u> , as above.	
		10	<u>Shale</u> , as above.	
		10	<u>Siltstone</u> , as above.	
6060	6065	40	<u>Sand</u> , as above.	
		40	<u>Siltstone</u> , dark brown, very slightly calcareous, hard, argillaceous.	
		10	<u>Shale</u> , as above.	
		10	<u>Coal</u> .	
6065	6070	30	<u>Sand</u> , as above.	
		30	<u>Siltstone</u> , as above.	
		30	<u>Shale</u> , dark brown black, carbonaceous, soft, non-calcareous.	
		10	<u>Coal</u> .	
6070	6075	20	<u>Sand</u> , as above, occasionally light gray.	
		30	<u>Siltstone</u> , as above.	
		30	<u>Shale</u> , as above.	
		20	<u>Coal</u> .	
6075	6080	20	<u>Sand</u> , light gray tan, fine-very fine, non-calcareous, poor cementing, fair sorting, subangular-subrounded.	
		50	<u>Siltstone</u> , brown-gray brown, slightly calcareous, firm, sandy in part.	
		20	<u>Shale</u> , gray, gray green, gray brown, non-calcareous - calcareous, silty in part, soft-firm.	
		10	<u>Coal</u> .	
6080	6085		As above.	
6085	6090	20	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		20	<u>Shale</u> , as above.	
		40	<u>Coal</u> .	

DITCH SAMPLES

Examined by Thurber 6090 to 6145
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6090	6095	10	<u>Sand</u> , as above.	
		10	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above.	
		70	<u>Coal</u> .	
6095	6100		As above.	
6100	6105	20	<u>Sand</u> , light tan, very fine, silty, subrounded, well cemented, well sorted, hard, tight, very slightly calcareous.	
		10	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above.	
		60	<u>Coal</u> , as above.	
6105	6110	40	<u>Sand</u> , as above.	
		20	<u>Siltstone</u> , as above.	
		20	<u>Shale</u> , as above.	
		20	<u>Coal</u> .	
6110	6115	50	<u>Sand</u> , light gray, very fine, occasionally fine, subangular-subrounded, slightly calcareous, fair cementing, fair sorting.	
		10	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above.	
		30	<u>Coal</u> .	
6115	6120	40	<u>Sand</u> , light gray, as above.	
		10	<u>Siltstone</u> , as above.	
		50	<u>Coal</u> .	
6120	6125	10	<u>Sand</u> , light gray, very fine, occasionally fine, as above.	
		50	<u>Siltstone</u> , gray-gray brown, non-calcareous, hard-firm, argillaceous in part	
		30	<u>Shale</u> , gray, dark gray, gray green, green, with occasional red, calcareous to non-calcareous, soft-firm.	
		10	<u>Coal</u> .	
		Tr.	<u>Dolomite</u> , cream, hard, IVFA.	
6125	6130		As above.	
6130	6140	20	<u>Sand</u> , light gray, fine-very fine, slightly calcareous, poor cementing, fair sorting, subangular.	
		30	<u>Siltstone</u> , as above.	
		40	<u>Shale</u> , as above, with abundant brown-light brown, hard, calcareous.	
		10	<u>Coal</u> .	
6140	6145	30	<u>Sand</u> , as above, except more fine grain, occasionally very fine.	
		40	<u>Siltstone</u> , gray brown-brown, argillaceous, soft-firm, non-calcareous, with occasional brown sandy siltstone, hard, very calcareous.	
		10	<u>Limestone</u> , gray green, oolites and fossils, IVFA.	
		20	<u>Shale</u> , as above.	

DITCH SAMPLES

Examined by Thurber 6145 to 6200
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6145	6150	30	<u>Sand</u> , as above.	
		10	<u>Sand</u> , light tan, very fine, non-calcareous, well cemented, well sorted, subrounded, very hard, tight.	
		10	<u>Limestone</u> , light green, IVFA, hard.	
		30	<u>Siltstone</u> , as above, with occasional light green, slightly calcareous, firm.	
		20	<u>Shale</u> , as above, with occasional yellow and maroon.	
6150	6155	20	<u>Sand</u> , light gray, as above.	
		10	<u>Sand</u> , light tan, as above.	
		60	<u>Siltstone</u> , as above.	
		10	<u>Coal</u> .	
		Tr.	<u>Limestone</u> , tan, IVFA.	
6155	6165	20	<u>Sand</u> , white-light gray-light tan, very fine-fine, non-calcareous - slightly calcareous, well cemented, fair sorting, subangular, silty.	
		30	<u>Siltstone</u> , as above, occasionally very sandy.	
		30	<u>Shale</u> , as above, with abundant gray, gray green, tan and red brown, non-calcareous - slightly calcareous, silty in part.	
		10	<u>Coal</u> .	
		10	<u>Limestone</u> , cream, fossiliferous, IVFA.	
6165	6175	40	<u>Coal</u> .	
		20	<u>Sand</u> , as above, <u>trace bright yellow fluorescence, fair milky cut fluorescence</u> .	
		30	<u>Siltstone</u> , as above.	
		10	<u>Shale</u> , as above.	
6175	6185	30	<u>Sand</u> , light gray, fine-medium, slightly calcareous, subangular - angular, friable, poor sorting.	
		10	<u>Siltstone</u> , gray-gray brown, non-calcareous, argillaceous, occasionally light brown, very sandy, hard.	
		10	<u>Coal</u> .	
		50	<u>Shale</u> , gray, green, gray green, occasional red and red brown, soft.	
6185	6190	40	<u>Sand</u> , as above.	
		10	<u>Sand</u> , gray-tan, very fine, non-calcareous, well cemented, well sorted, hard, tight.	
		20	<u>Siltstone</u> , brown, very sandy, hard.	
		20	<u>Shale</u> , as above.	
		10	<u>Coal</u> .	
6190	6195		As above.	
6195	6200	100	<u>Coal</u> .	

DITCH SAMPLES

Examined by Thurber 6200 to 6270
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6200	6210	30	<u>Sand</u> , light gray, fine-medium, as above.	
		10	<u>Sand</u> , gray-tan, very fine, as above.	
		40	<u>Coal</u> .	
		20	<u>Shale</u> , gray-dark gray brown, gray green, light green, non-calcareous - slightly calcareous, silty in part, carbonaceous in part, firm-soft.	
6210	6215	70	<u>Shale</u> , as above, occasional orange brown with coarse floating quartz grains.	
		30	<u>Coal</u> .	
6215	6225	10	<u>Sand</u> , light gray, as above.	
		10	<u>Sand</u> , gray-tan, as above.	
		50	<u>Coal</u> .	
		30	<u>Shale</u> , as above.	
Tr.			<u>Limestone</u> , maroon, IVFA.	
6225	6230		As above.	
6230	6235	30	<u>Sand</u> , light gray tan, fine-very fine, occasionally medium, subrounded-subangular, fair cementing, fair sorting, very slightly calcareous.	
		30	<u>Coal</u> .	
		40	<u>Shale</u> , as above, very silty in part.	
6235	6245	70	<u>Sand</u> , as above, more fine-medium grains.	
		20	<u>Shale</u> , as above.	
		10	<u>Coal</u> .	
6245	6255	80	<u>Sand</u> , as above, more friable, fair-poor cementing, <u>20% faint blue green fluorescence, very faint cut fluorescence.</u>	
		20	<u>Shale</u> , as above.	
6255	6260	10	<u>Sand</u> , as above.	
		10	<u>Coal</u> .	
		80	<u>Shale</u> , gray, gray green, gray brown, non-calcareous - slightly calcareous, soft-firm.	
6260	6265	40	<u>Sand</u> , light gray-light tan, occasional gray green, very fine, occasionally very fine-fine, calcareous, subrounded, poor cementing, well sorted.	
		30	<u>Siltstone</u> , gray brown-red brown, occasionally calcareous, very argillaceous in part.	
		30	<u>Shale</u> , as above, occasionally maroon.	
6265	6270	20	<u>Sand</u> , as above.	
		30	<u>Sand</u> , white-light gray, fine-medium, slightly calcareous, subrounded-subangular, fair-poor cementing, poor sorting.	
		20	<u>Siltstone</u> , as above.	
		30	<u>Shale</u> , as above, with occasional light green, soft with floating coarse brown sand grains, occasionally light gray, soft, silty.	

DITCH SAMPLES

Examined by Thurber 6270 to 6275
 _____ to _____

Well Southman Canyon Unit 8
 Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6270	6275	30	<u>Sand</u> , white-light gray, as above, except more fine-very fine grains.	
		20	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above, with rare blue green and occasional yellow, soft, non-calcareous.	

DITCH SAMPLES

Examined by Thurber 6275 to 6335
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6275	6280	20	<u>Sand</u> , light gray to very light tan, fine and very fine, slightly calcareous, occasional calcareous, sub-angular, fair cement, fair sort	
		20	<u>Siltstone</u> , gray to gray brown, soft, argillaceous	
		60	<u>Shale</u> , brown gray to gray, occasional light green, soft non-calcareous	
6280	6285	10	<u>Sand</u> , as above	
		10	<u>Siltstone</u> , as above	
		80	<u>Shale</u> , as above with occasional cream and yellow, non-calcareous	
6285	6295	50	<u>Sand</u> , tan, very fine, occasionally fine, very slight calcareous, fair cement, friable, fair sort, sub-angular to sub-round	
		10	<u>Coal</u>	
		40	<u>Shale</u> , as above, occasionally very silty and occasionally pyritic, occasionally orange shale	
6295	6300	10	<u>Sand</u> , as above	
		10	<u>Sand</u> , light gray, very fine, slightly calcareous to calcareous, well cemented fair sort	
		40	<u>Siltstone</u> , brown to gray brown, non-calcareous, firm to hard	
		40	<u>Shale</u> , as above	
6300	6305	10	<u>Sand</u> , tan, as above	
		10	<u>Sand</u> , light gray, as above, occasional fine grains	
		50	<u>Siltstone</u> , as above	
		30	<u>Shale</u> , as above with occasional red, light green and yellows, soft, slightly calcareous to non-calcareous	
		Tr	<u>Limestone</u> , light purple, IVFA	
6305	6310	20	<u>Sand</u> , tan, as above	
		60	<u>Siltstone</u> , as above, becoming very argillaceous	
		20	<u>Shale</u> , as above	
6310	6315	30	<u>Sand</u> , light gray to light tan, very fine to fine, slightly calcareous, sub-angular, fair cement, fair to poor sort, silty, dirty	
		10	<u>Coal</u>	
		40	<u>Siltstone</u> , as above	
		20	<u>Shale</u> , as above	
6315	6320	20	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , abundant brown, very soft, non-calcareous	
6320	6325	20	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , gray, dark gray brown, brown, gray green, light green, soft, non-calcareous to slightly calcareous, carbonaceous in parts	
6325	6330	10	<u>Sand</u> , white, fine to medium, sub-angular, slightly calcareous, abundant clay material, poor sort, slightly friable with abundant black inclusion	
		30	<u>Sand</u> as above	
		20	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above with abundant orange and green, occasional maroon	
6330	6335	10	<u>Sand</u> , white, as above	
		30	<u>Sand</u> , light tan, very fine, very slight calcareous, sub-round, well cemented, well sort	
		20	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above	

DITCH SAMPLES

Examined by Thurber 6335 to 6410
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6335	6340	10	<u>Sand</u> , white, as above	
		50	<u>Sand</u> , light tan, as above, occasionally very fine to fine	
		20	<u>Siltstone</u> , as above	
		20	<u>Shale</u> , as above, occasionally red.	
6340	6345	10	<u>Sand</u> , light tan, very fine, as above	
		10	<u>Sand</u> , white, as above	
		70	<u>Shale</u> , gray to dark gray, gray green, light green, yellow, occasional orange and maroon, soft to firm, silty in parts	
6345	6350	10	<u>Limestone</u> , brown, IVFA	
		20	<u>Siltstone</u> , dark brown, non-calcareous, soft to firm, argillaceous	
		10	<u>Sand</u> , light tan, as above, occasional very fine to fine, very slightly calcareous	
		20	<u>Sand</u> , light gray, very fine, slightly calcareous, sub-round, poor cement, fair to good sort.	
6350	6355	50	<u>Shale</u> , as above	
		20	<u>Sand</u> , light tan, as above	
		20	<u>Sand</u> , light gray, very fine to fine, slightly calcareous, sub-angular, fair to good cement, fair to poor cement	
		30	<u>Siltstone</u> , as above, occasional gray brown, sandy in parts	
6355	6360	30	<u>Shale</u> , as above	
		80	<u>Sand</u> , tan, very fine to fine, slightly calcareous, sub-angular to sub-round, well cemented, well sorted, hard, tight with <u>80% pale yellow fluorescence, no cut fluorescence</u>	
		20	<u>Shale</u> , as above	
6360	6365	40	<u>Sand</u> , as above	
		10	<u>Coal</u>	
		10	<u>Limestone</u> , cream to light brown, IVFA	
		20	<u>Siltstone</u> , as above	
		20	<u>Shale</u> , as above	
6365	6370		As Above	
6370	6375	80	<u>Sand</u> , tan, as above, more very fine grains, with <u>40% blue green fluorescence, very weak blue white cut fluorescence</u>	
		20	<u>Shale</u> , as above	
6375	6380	50	<u>Sand</u> , as above	
		50	<u>Shale</u> , as above with abundant dark gray, soft, non-calcareous, occasional orange, soft, calcareous, occasional dark brown, very silty	
6380	6385	30	<u>Sand</u> , as above	
		30	<u>Siltstone</u> , tan to brown, very sandy with black shale partings, firm to hard	
		40	<u>Shale</u> , as above with occasional light green to gray green	
6385	6395		As above	
6395	6400	20	<u>Sand</u> , tan, as above	
		60	<u>Siltstone</u> , gray brown to dark brown, non-calcareous, firm, very argillaceous	
		20	<u>Shale</u> , as above	
6400	6405	10	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above	
		70	<u>Shale</u> , as above, silty in parts	
6405	6410	80	<u>Sand</u> , light gray to light gray tan, very fine, slightly calcareous, well cemented, well sort, sub-round, <u>80% pale yellow pinpoint fluorescence, trace yellow cut fluorescence, very weak</u>	
		20	<u>Shale</u> , as above.	

DITCH SAMPLES

Examined by Thurber 6410 to 6475
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6410	6420	100	<u>Sand</u> , as above	
6420	6425	70	<u>Sand</u> , as above	
		10	<u>Siltstone</u> , dark brown, non-calcareous, hard to firm	
		20	<u>Shale</u> , as above with abundant dark gray to dark brown, carbonaceous in parts, soft, non-calcareous	
6425	6430	30	<u>Sand</u> , light gray and light gray tan, very fine and very fine to fine, slightly calcareous, well cemented, fair to good sort	
		10	<u>Coal</u>	
		30	<u>Siltstone</u> , dark gray brown, non-calcareous, firm to hard, very argillaceous	
		30	<u>Shale</u> , abundant gray, gray brown, gray green, light gray, soft	
6430	6435	50	<u>Sand</u> , as above with <u>20% bright yellow fluorescence, very weak cut fluorescence</u>	
		10	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above	
6435	6440	20	<u>Sand</u> , as above	
		60	<u>Siltstone</u> , as above	
		20	<u>Shale</u> , as above, occasionally very pyritic	
		tr.	<u>Limestone</u> , cream, IUFA	
6440	6445	20	<u>Sand</u> , as above	
		20	<u>Coal</u> , as above	
		40	<u>Siltstone</u> , as above	
		20	<u>Shale</u> , as above	
6445	6450	30	<u>Sand</u> , as above	
		10	<u>Coal</u>	
		50	<u>Siltstone</u> , as above, occasionally sandy	
		10	<u>Shale</u> , as above	
6450	6455	50	<u>Sand</u> , light gray to gray tan, fine to very fine, very slight calcareous, well cemented, poor to fair sort, sub-angular, dirty, silty with occasional siltstone and shale partings, <u>5% yellow fluorescence, very weak cut fluorescence</u>	
		30	<u>Siltstone</u> , brown to dark brown, sandy in parts, argillaceous in parts	
		20	<u>Shale</u> , as above	
6455	6465	30	<u>Sand</u> , as above	
		50	<u>Siltstone</u> , as above, grading from sand in parts, dirty	
		20	<u>Shale</u> , as above with occasional dark gray brown, carbonaceous	
6465	6470	40	<u>Sand</u> , light gray to gray tan, fine to very fine, very slightly calcareous, sub-angular, fair to well cemented, fair sort with <u>2% yellow fluorescence and very weak cut fluorescence</u>	
		20	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above with occasional orange, green and maroon	
		Tr.	<u>Limestone</u> , cream, IVFA	
6470	6475	50	<u>Sand</u> , as above	
		10	<u>Coal</u>	
		20	<u>Siltstone</u> , as above	
		20	<u>Shale</u> , as above	

DITCH SAMPLES

Examined by Thurber 6475 to 6550
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6475	6495	80	<u>Sand</u> , light gray, fine to very fine, non-calcareous, sub-angular to sub-round, fair to good cement, fair sort with <u>40% blue green fluorescence</u> , <u>faint cut fluorescence</u> , occasional dark stained	
		10	<u>Siltstone</u> , as above	
		10	<u>Shale</u> , as above	
6495	6500	70	<u>Sand</u> , as above <u>40% fluorescence and cut as above</u>	
		30	<u>Siltstone</u> , dark brown, hard to firm, non-calcareous	
		Tr.	<u>Shale</u> , as above	
6500	6505		As above	
6505	6510	50	<u>Sand</u> , as above, <u>20% fluorescence and cut fluorescence</u> , as above	
		50	<u>Siltstone</u> , dark brown, hard, sandy, grading from sand	
6510	6515	40	<u>Sand</u> , light gray to gray tan, fine, occasionally very fine, non-calcareous, sub-angular to sub-round, fair sort, well cemented, dirty, silty in parts, with occasional to abundant shale and siltstone partings, hard, <u>20% blue green fluorescence and cut fluorescence as above</u>	
		60	<u>Siltstone</u> , dark brown, as above, very sandy in parts	
6515	6520	60	<u>Sand</u> , as above, <u>20% fluorescence and cut fluorescence</u> , as above	
		40	<u>Siltstone</u> , as above	
6520	6525		As above	
6525	6530	20	<u>Sand</u> , as above	<u>5% fluorescence and cut</u>
		30	<u>Sand</u> , light gray, fine to very fine, slight calcareous, sub-angular, fair cement, fair sort	<u>fluorescence, as above occasional yellow fluorescence</u>
		20	<u>Siltstone</u> , as above	
		30	<u>Shale</u> , gray, gray green, gray brown, light gray, occasional orange and yellow, soft to firm, non-calcareous to slightly calcareous	
6530	6535	10	<u>Sand</u> , as above	<u>5% fluorescence and cut</u>
		30	<u>Sand</u> , light gray, as above	<u>fluorescence, as above occasional</u>
		30	<u>Siltstone</u> , as above argillaceous in parts	<u>yellow fluorescence</u>
		30	<u>Shale</u> , as above with occasional light pink to light tan, blue green and red	
6535	6545	30	<u>Sand</u> , light gray, as above	<u>5% fluorescence and cut</u>
		30	<u>Siltstone</u> , as above	<u>fluorescence, as above occasional</u>
		40	<u>Shale</u> , as above	<u>yellow fluorescence</u>
6545	6550		As above	
6550	6555	30	<u>Sand</u> , light gray, very fine to fine and fine to medium, slight calcareous, sub-angular to sub-round, well cemented, fair sort	<u>With trace blue green</u>
				<u>fluorescence and cut fluorescence</u>
				<u>as above</u>
		40	<u>Siltstone</u> , brown to dark brown, hard, slight calcareous, very sandy, grading from sand	
		30	<u>Shale</u> , as above, abundant light to dark gray, gray green, light green, soft, non-calcareous	
6555	6550	20	<u>Sand</u> , light gray, as above	<u>With trace blue green</u>
		20	<u>Sand</u> , gray tan, very fine, slight calcareous, sub-round, well cemented, well sorted, hard, tight with occasional coal partings.	<u>fluorescence and cut fluorescence</u>
				<u>as above</u>
		20	<u>Siltstone</u> , as above	
		40	<u>Shale</u> , as above	
		Tr.	<u>Limestone</u> , tan, fossils, IVFA	

DITCH SAMPLES

Examined by Thurber 6560 to 6600
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6560	6570	10	<u>Sand</u> , light gray, as above	<u>With trace blue green</u>
		10	<u>Sand</u> , gray tan, as above	<u>fluorescence and cut fluorescence</u>
		20	<u>Siltstone</u> , gray brown, argillaceous, firm, non-calcareous	<u>as above</u>
		60	<u>Shale</u> , as above, silty, in parts, occasional pyritic	
	Tr.		<u>Limestone</u> , tan, IVFA	
6570	6575	30	<u>Sand</u> , light gray, fine, occasionally fine to very fine, sub-round to sub- angular, very slight calcareous, fair to poor cement, fair sort	<u>With trace blue green</u> <u>fluorescence and cut fluorescence</u> <u>as above</u>
		10	<u>Sand</u> , gray tan, as above	
		10	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , as above with abundant dark gray brown, firm, non-calcareous, carbonaceous	
6575	6590	20	<u>Sand</u> , light gray, as above with occasional gray tan, fine to very fine, occasional slight calcareous	<u>With trace blue green</u> <u>fluorescence and cut fluorescence</u> <u>as above</u>
		10	<u>Coal</u>	
		10	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , as above with abundant gray brown, gray green, light green, occasional orange, silty in part	
6590	6600	40	<u>Sand</u> , white light gray, Fine, occasionally very fine, occasionally medium, slight calcareous, sub-round to sub-angular, friable with difference, fair cement, fair sort, black inclusion, occasional green grains, <u>trace</u> <u>blue green fluorescence, and cut fluorescence as above</u>	
		20	<u>Siltstone</u> , dark brown, non-calcareous, firm to hard	
		40	<u>Shale</u> , as above	

DITCH SAMPLES

Examined by Thurber 6600 to 6660
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon II

From	To	%	Shows Underlined	Samples Lagged
6600	6605	30	<u>Sand</u> , white to light gray, as above, with occasional gray tan, very fine to fine, with occasional shale and coal partings, dirty silty	<u>Trace blue green fluorescence and cut fluorescence as above</u>
		10	<u>Siltstone</u> , dark brown, as above, argillaceous in part, sandy in part	
		60	<u>Shale</u> , abundant gray, gray brown, dark brown, with occasional coal partings	
6605	6610	20	<u>Sand</u> , as above	
		10	<u>Sand</u> , tan, very fine, subround, non-calcareous, well cemented, well sorted	<u>Trace blue green fluorescence, and cut fluorescence, as above</u>
		20	<u>Siltstone</u> , gray brown to dark brown, argillaceous, non-calcareous, firm to hard	
		50	<u>Shale</u> , as above	
6610	6615	20	<u>Sand</u> , white to light gray, as above	
		10	<u>Siltstone</u> , as above	
		70	<u>Shale</u> , as above	
6615	6620	30	<u>Sand</u> , as above	<u>Trace blue green fluorescence and cut fluorescence as above</u>
		20	<u>Sand</u> , gray to brown, very fine to fine, non-calcareous to calcareous, dirty, well to fair cement, fair sort, occasional shale and coal partings	
		50	<u>Shale</u> , as above with occasional maroon, brown, orange, blue green and yellow	
		Tr.	<u>Limestone</u> , tan to pink, IVFA	
6620	6625	20	<u>Sand</u> , white to light gray, as above	
		10	<u>Sand</u> , gray to brown, as above	
		70	<u>Shale</u> , as above with abundant dark gray brown, silty in part, carbonaceous in part, occasional coal partings, occasional light gray shale, soft	
		Tr.	<u>Limestone</u> , as above	
6625	6630	40	<u>Sand</u> , light gray to gray tan, very fine, occasional very fine to fine, very slightly calcareous, fair cement, well sorted, friable with difference, round to subround	
		10	<u>Sand</u> , white to light gray as above	
		10	<u>Coal</u>	
		40	<u>Shale</u> , as above, occasional dark brown, very silty	
		Tr.	<u>Limestone</u> , tan to brown, IVFA	
6630	6635	20	<u>Sand</u> , light gray tan, as above	
		10	<u>Sand</u> , white to light gray, as above	
		20	<u>Coal</u>	
		50	<u>Shale</u> , as above	
6635	6650	20	<u>Sand</u> , light gray to gray tan, as above	
		10	<u>Sand</u> , white to light gray, as above	
		10	<u>Coal</u>	
		60	<u>Shale</u> , as above with occasional light green, tan, yellow, maroon, soft, calcareous, occasional orange, non-calcareous	
6650	6660	30	<u>Sand</u> , white to light gray, fine, occasional very fine to medium, subround to subangular, very slightly calcareous to non-calcareous, occasional green grains, fair to poor cement, fair to poor sort, occasional shale and coal partings, dirty in part, black inclusion.	
		10	<u>Sand</u> , light gray to gray tan, as above	
		50	<u>Shale</u> , as above	
		10	<u>Coal</u>	

DITCH SAMPLES

Examined by Thurber 6660 to 6740
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6660	6665	10	<u>Sand</u> , white to light gray, as above	
		10	<u>Sand</u> , light gray to gray tan, as above	
		10	<u>Coal</u>	
		70	<u>Shale</u> , as above with more green, light gray, yellow, red, maroon, light gray green, soft, slightly calcareous to calcareous	
6665	6670	10	<u>Sand</u> , white to light gray, as above	
		10	<u>Sand</u> , light gray to gray tan, as above	
		30	<u>Coal</u>	
6670	6675	50	<u>Shale</u> , as above	
		20	<u>Sand</u> , white to light gray, fine, as above	(Poor samples)
		20	<u>Sand</u> , light gray to gray tan, very fine to fine, very slightly calcareous to calcareous, fair cement, well sorted, subround	
6675	6680	60	<u>Shale</u> , as above	
		Tr.	<u>Limestone</u> , yellow, argillaceous, IVFA	
		20	<u>Sand</u> , white to light gray, as above	
		30	<u>Sand</u> , light gray to gray tan, with occasional dark tan, very silty	
6680	6685	10	<u>Siltstone</u> , brown, very sandy, hard, non-calcareous with occasional dark brown stain	<u>No fluorescence, good yellow cut fluorescence</u>
		40	<u>Shale</u> , as above with abundant varicolored shale	
		20	<u>Sand</u> , white to light gray, as above	
		10	<u>Sand</u> , light gray to gray tan	
6685	6690	30	<u>Siltstone</u> , gray, occasional gray brown, very argillaceous, non-calcareous to slightly calcareous, occasional sandy siltstone, as above	
		40	<u>Shale</u> , as above, with abundant gray to light gray	
		20	<u>Sand</u> , white to light gray, as above	
		20	<u>Sand</u> , tan, very fine, subround, fair to poor cement, well sorted, clean	
6690	6700	10	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , as above	
		30	<u>Sand</u> , white to light gray, as above	
6700	6705	10	<u>Sand</u> , tan, as above, occasional dirty with coal partings.	
		60	<u>Shale</u> , as above, occasional silty	
		30	<u>Sand</u> , gray to light tan, very fine to fine, slightly calcareous, subround to subangular, fair to well cemented, fair sort, occasional dirty and silty with occasional thin coal partings.	
6705	6720	70	<u>Shale</u> , abundant gray to dark gray brown, dark brown, gray green, light gray, carbonaceous in part, silty in part	
6705	6720	40	<u>Sand</u> , as above	
		20	<u>Coal</u>	
		30	<u>Shale</u> , as above	
		10	<u>Siltstone</u> , dark brown, argillaceous, soft to firm, occasional sandy	
6720	6730	30	<u>Sand</u> , as above, occasional very silty	
		20	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , as above with occasional orange, yellow, light green, maroon, soft	
6730	6740	20	<u>Sand</u> , as above	
		30	<u>Coal</u>	
		50	<u>Shale</u> , as above, with occasional coal partings, occasional gray shale, very silty	

DITCH SAMPLES

Examined by Thurber 6740 to 6805
_____ to _____Well Southman Canyon/Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6740	6745	20	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , brown, sandy in part, non-calcareous, occasionally hard and pyritic	
		50	<u>Shale</u> , as above	
6745	6750	10	<u>Coal</u>	
		20	<u>Sand</u> , as above	
6750	6755	80	<u>Shale</u> , abundant gray to dark gray brown, occasional blue green, light green, gray green, maroon, with trace white shale, very calcareous limy, soft	
		10	<u>Sand</u> , as above	
		20	<u>Coal</u>	
6755	6760	70	<u>Shale</u> , as above	
		20	<u>Sand</u> , gray to light tan, very fine to fine, subangular to (Poor samples) subround, poor to fair cement, fair sort, dirty in part, occasional shale and coal partings, occasional silty	
		30	<u>Coal</u>	
6760	6765	50	<u>Shale</u> , abundant gray to gray brown, light gray and occasional gray green and light green, firm to soft	
		20	<u>Sand</u> , as above	
		10	<u>Coal</u>	
6765	6770	70	<u>Shale</u> , as above, silty in part	
		20	<u>Sand</u> , as above	
		10	<u>Coal</u>	
6770	6780	30	<u>Siltstone</u> , gray brown to brown, non-calcareous, firm to soft, slightly sandy in part, argillaceous in part	
		40	<u>Shale</u> , as above	
		30	<u>Sand</u> , as above, with occasional white to light gray, fine, very slightly calcareous to slightly calcareous, poor cement, fair sort, black inclusion	
6780	6790	20	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , as above, with occasional blue green, green, light green, tan and maroon, abundant orange (cavings?)	
		10	<u>Sand</u> , white to light gray fine, as above	5% yellow fluorescence in samples predominately mineral
6790	6795	20	<u>Sand</u> , gray to light tan, very fine to fine, as above	fluorescence in shales with occasional bright yellow
		20	<u>Siltstone</u> , as above	fluorescence in very fine sand, with fair milky white cut
		50	<u>Shale</u> , as above	fluorescence
6795	6805	30	<u>Sand</u> , white to light gray, fine, as above, with occasional gray tan, very fine to fine	5% yellow fluorescence in samples predominately mineral
		10	<u>Siltstone</u> , as above	fluorescence in shales with occasional bright yellow
		60	<u>Shale</u> , as above	fluorescence in very fine sand, with fair milky white cut
		Tr.	<u>Limestone</u> , tan to brown, IVFA	fluorescence
6795	6805	20	<u>Sand</u> , as above	Trace yellow fluorescence and cut fluorescence
		20	<u>Siltstone</u> , as above	as above
		60	<u>Shale</u> , as above	
		Tr.	<u>Limestone</u> as above	
Tr.	<u>Sand</u> , very fine to silty, light brown to tan, calcareous, very silty, dirty		With trace oil stain, yellow fluorescence with good yellow streaming out fluorescence	

DITCH SAMPLES

Examined by Thurber 6805 to 6855
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6805	6810	20	<u>Sand</u> , as above, with occasional coal and shale partings	
		10	<u>Sand</u> , dark brown, very fine to silty, very hard, occasional quartzitic, non-calcareous, subangular, occasional very dirty	
		20	<u>Siltstone</u> , brown to dark brown, occasional very calcareous, predominately argillaceous, grading to silty shale	
		50	<u>Shale</u> , as above, with abundant gray to gray brown, dark gray, occasional carbonaceous, occasional light green with maroon oxidation	
		Tr.	<u>Limestone</u> , as above, with occasional orange, IVFA	
6810	6820	20	<u>Sand</u> , white to light gray, fine, as above	
		10	<u>Sand</u> , dark brown, very fine to silty, as above	
		10	<u>Siltstone</u> , as above, with occasional light gray, slightly sandy, soft to firm	
		60	<u>Shale</u> , as above, with abundant varicolors including green shale with brown limestone inclusive, abundant light gray, soft, slightly calcareous shale	
		Tr.	<u>Limestone</u> , as above	
6820	6825	10	<u>Limestone</u> , tan, with large fossils and occasional coarse to medium quartz grains	
		10	<u>Sand</u> , white to light gray, as above	
		10	<u>Sand</u> , gray tan to tan, very fine, slightly calcareous, well sorted, well to fair cement, occasional shale partings, predominately clean	
		10	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , as above	
		Tr.	<u>Limestone</u> , pink to maroon, IVFA	
6825	6835	20	<u>Sand</u> , white to light gray, fine, as above	
		10	<u>Sand</u> , gray tan to tan, as above, occasional very hard and quartzitic	
		10	<u>Siltstone</u> , tan to brown, sandy, slightly calcareous, hard to firm, occasional gray, sandy	
		60	<u>Shale</u> , varicolored, as above with abundant gray brown, gray, light gray, silty in part, soft to firm, with occasional dark gray to black, very hard, non-calcareous	
		Tr.	<u>Limestone</u> , tan, IVFA	
6835	6840	10	<u>Sand</u> , white to light gray, as above	
		10	<u>Sand</u> , gray tan to tan, as above	
		30	<u>Siltstone</u> , gray brown to brown, sandy to very sandy, hard to firm, slightly calcareous, dirty, grading from sand	
		50	<u>Shale</u> , as above	
		Tr.	<u>Limestone</u> , as above	
6840	6850	30	<u>Sand</u> , gray to gray tan to tan, very fine to fine, slightly calcareous, subround to subangular, fair cement, fair to poor sort, occasional black inclusion (S & P), occasional dirty and silty with shale and coal partings	
		10	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , as above	
		Tr.	<u>Limestone</u> , as above	
		6850	6855	20
		20	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , as above	
		Tr.	<u>Limestone</u> , as above	

DITCH SAMPLES

Examined by Thurber 6855 to 6930
_____ to _____Well. Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6855	6860	10	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above	
		70	<u>Shale</u> , as above	
		Tr.	<u>Limestone</u> , as above, with occasional light brown, fossils	
6860	6865	20	<u>Sand</u> , as above with occasional gray green, very fine to fine, calcareous, friable, subround, fair sort	
		20	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , as above, abundant light gray and gray green	
		Tr.	<u>Limestone</u> , as above	
6865	6870	40	<u>Sand</u> , as above, (Sands range from light gray to tan and from very fine to fine grained, caving(?))	
		10	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , as above	
		Tr.	<u>Limestone</u> , as above	
6870	6880	30	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , as above	
		Tr.	<u>Limestone</u> , as above	
6880	6890	20	<u>Sand</u> , as above	
		20	<u>Siltstone</u> , as above, becoming argillaceous in part	
		60	<u>Shale</u> , as above	
		Tr.	<u>Limestone</u> , as above	
6890	6900		As above	
6900	6910	40	<u>Sand</u> , light gray to white, fine to very fine, slightly calcareous to calcareous, subangular, fair to poor cement, fair sort, black inclusion, occasional green and pink grains, rare shale partings	
		10	<u>Siltstone</u> , gray to gray brown, very slightly calcareous, firm to hard, sandy in part	
		50	<u>Shale</u> , as above, with abundant light gray to gray and gray brown	
		Tr.	<u>Limestone</u> , tan, IVFA	
		Tr.	<u>Coal</u>	
		Tr.	<u>Coal</u>	
6910	6915	30	<u>Sand</u> , as above, with occasional gray tan, very fine to fine, very slightly calcareous, fair to well cemented.	
		20	<u>Siltstone</u> , as above, with occasional dark brown, very sandy, hard, dirty	
		50	<u>Shale</u> , as above with more gray brown to dark gray brown, silty in part	
		Tr.	<u>Limestone</u> , as above	
6915	6925	20	<u>Sand</u> , as above with more very fine to fine	
		10	<u>Siltstone</u> , as above	
		70	<u>Shale</u> , as above with more varicolored shales, occasional light gray to white and light gray green	
		Tr.	<u>Limestone</u> , as above	
6925	6930	10	<u>Sand</u> , as above	
		20	<u>Sand</u> , light gray to clear, fine, non-calcareous, slightly friable but tight, predominately clean, poor sort, appears quartzitic, hard	
		10	<u>Siltstone</u> , as above	
		60	<u>Shale</u> , as above	
		Tr.	<u>Limestone</u> , as above	

DITCH SAMPLES

Examined by Thurber 6930 to 7000
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
6930	6935	20	<u>Sand</u> , light gray to white, fine to very fine, as above	
		10	<u>Siltstone</u> , as above	
		70	<u>Shale</u> , as above with more brown to dark gray brown, non-calcareous, firm to soft and occasional light gray, soft	
		Tr.	<u>Sand</u> , light gray to clear, fine, as above	
6935	6940	10	<u>Sand</u> , light gray to white, as above	
		10	<u>Siltstone</u> , as above, more argillaceous, more gray siltstone, hard to firm, very slightly calcareous	
		70	<u>Shale</u> , as above	
		10	<u>Coal</u>	
		Tr.	<u>Limestone</u> , as above	
6940	6945	15	<u>Sand</u> , light gray to white, as above	
		5	<u>Sand</u> , light tan, very fine, non-calcareous, fair to well cemented, well sort, occasional dirty and silty	
		10	<u>Siltstone</u> , as above	
		70	<u>Shale</u> , as above	
		Tr.	<u>Coal</u>	
		Tr.	<u>Limestone</u> , as above	
6945	6950	80	<u>Sand</u> , light gray tan to light tan, very fine, calcareous, subround to sub-angular, well cemented, well sorted, with abundant brown specks <u>With 60% spotty blue green fluorescence and very weak blue white cut fluorescence</u>	
		20	<u>Shale</u> , as above	
6950	6960	80	<u>Sand</u> , as above, grading to more gray brown	<u>5% fluorescence to</u>
		20	<u>Shale</u> , as above	<u>fluorescence as above</u>
6960	6970	90	<u>Sand</u> , as above, <u>with trace fluorescence and cut fluorescence as above</u>	
		10	<u>Shale</u> , as above	
6970	6975	90	<u>Sand</u> , as above, <u>with trace fluorescence and cut fluorescence as above</u>	
		10	<u>Shale</u> , as above, with trace blue green and dark blue gray, soft, non-calcareous	
6975	6985	20	<u>Sand</u> , as above	
		50	<u>Siltstone</u> , brown to dark brown, sandy, slightly calcareous, hard to firm, grading from sand above, occasional slightly dolomitic	
		30	<u>Shale</u> , light gray to gray brown, occasional blue green, and gray green, occasional dark brown, silty in part, non-calcareous, soft to firm	
6985	6995	10	<u>Sand</u> , as above	
		10	<u>Sand</u> , white to light gray, very fine to fine, subangular to subround, non-calcareous to slightly calcareous, fair to well cemented, fair sort, with black inclusion (S & P) occasional green and pink grains (cavings?)	
		10	<u>Coal</u>	
		50	<u>Siltstone</u> , as above	
		20	<u>Shale</u> , as above, with occasional yellow and maroon and white with traces of light green shale with coarse faulting sand grains	
6995	7000	30	<u>Sand</u> , white to light gray with more fine grained sand, friable with difference, occasional shale and coal partings	
		10	<u>Coal</u>	
		10	<u>Siltstone</u> , as above	
		50	<u>Shale</u> , with occasional dark blue and dark blue gray	

DITCH SAMPLES

Examined by Thurber 7000 to 7016
_____ to _____Well Southman Canyon Unit 8
Field or Area Southman Canyon

From	To	%	Shows Underlined	Samples Lagged
7000	7005	10	Sand, white to light gray, as above	
		50	Sand, light gray tan, very fine, occasional very fine to fine, very slightly calcareous, subangular to subround, fair to well cemented, well sorted, with rare shale partings, abundant brown specks	
		10	Coal	
		10	Siltstone, as above	
		20	Shale, as above	
7005	7010	10	Sand, white to light gray, as above	
		70	Sand, light gray tan, as above, calcareous in part	
		20	Shale, as above	
		Tr.	Coal	
7010	7016	Tr.	Siltstone	
		60	Sand, light gray tan, as above	
		40	Shale as above, with more blue gray, occasional orange to red mottling and abundant gray brown to brown, silty in part	
		Tr.	Sand, white to light gray, as above	
Tr.	Siltstone, as above			

Measure out pipe prior to logging and corrected TD to 7028 feet.
Schlumberger measured 7033 feet.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE _____
LEASE NUMBER Southman Canyon
UNIT _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County Uintah Field Southman Canyon
The following is a correct report of operations and production (including drilling and producing wells) for the month of October, 19 63
Agent's address 1008 West Sixth Street Company Shell Oil Company
Los Angeles, California 90054 Signed R. B. Anderson
Phone HUntley 2-3131 Agent's title Section Supervisor

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DATE PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling depth; if shut down, cause; date and result of test for gasoline content of gas)
					Mesa Verde Participating Area "A"					
NE NE 29	10S	24E	4	27	3	67.9	2904			Flowing
					Mesa Verde Participating Area "B"					
NN NW 24	10S	23E	7	31	61	36.0	8553			Flowing
					Non-Participating					
NE NE 11	10S	23E	2							Shut in
NE SE 15	10S	23E	3							Shut in
NE SW 32	10S	24E	8							Suspended

RECEIVED
BR. OF OIL & GAS OPERATIONS
NOV 27 1963
U. S. GEOLOGICAL SURVEY
SALT LAKE CITY, UTAH

NOTE.—There were 1 runs or sales of oil; 11,225 M cu. ft. of gas sold;

runs or sales of gasoline during the month. (Write "no" when applicable)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Wash
LAND STATE Washington
COUNTY Washington

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Wash County Wash Field Southwest Canyon

The following is a correct report of operations and production (including drilling and producing wells) for the month of December, 1953.

Operator's address 1428 West 4th Street Company Shell Oil Company
Washington, D.C. Signed D. J. Collier
Production 1953 Agent's title Section Supervisor

Well No.	Well Name	Well No.	Well Name	Days Production	Barrels of Oil	Gravity	Cu. Ft. of Gas (at Standard)	Character of Reservoir	Volume of Water (at 60° F.)	Character of Water
12-22-53	122	2	22	2	22	22	22.0	4,300		Gas
New Wells Participating Area "A"										
12-22-53	122	7	22	22	22	22.0	2,940			Gas
New Wells Participating Area "B"										
12-22-53	122	2								Shut in
12-22-53	122	3								Shut in
12-22-53	122	6								Suspended

DEC 30 1953

None. These were 12,240 barrels of oil and 12,000 Cu. Ft. of gas sold;

12,240 Cu. Ft. of gas during the month. (Write "no" where applicable.)

None. Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

12-22-53

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY

Budget Bureau No. 42-R356.5
 Approval expires 12-31-60.

LAND OFFICE Utah
 LEASE NUMBER _____
 UNIT Southman Canyon

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County Uintah Field Southman Canyon
 The following is a correct report of operations and production (including drilling and producing wells) for the month of March, 1964,
 Agent's address 1008 W. Sixth Street Company Shell Oil Company
Los Angeles, California 90054 Signed [Signature]
 Phone HU 2-3131 Agent's title Section Supervisor

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
<u>Mass Verde Participating Area "A"</u>										
NE NE 29	10S	24E	6	31	67.9		2,852			Gas
<u>Mass Verde Participating Area "B"</u>										
NE NW 24	10S	23E	7	31	56.0		6,711			Gas
<u>Non-Participating</u>										
NE NE 11	10S	23E	2							Suspended
NE SE 15	10S	23E	3							"
NE SW 32	10S	24E	8							"

NOTE.—There were 111 runs or sales of oil; 9,563 M cu. ft. of gas sold;

111 runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

KAC

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Utah
LEASE NUMBER Southman Canyon
UNIT

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County Uintah Field Southman Canyon
The following is a correct report of operations and production (including drilling and producing wells) for the month of June, 1964
Agent's address 1008 West 6th Street Company Shell Oil Company
Los Angeles, California 90054 Signed *[Signature]*
Phone HU 2-3131 Agent's title Section Supervisor

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (in thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
MESA VERDE PARTICIPATING AREA "A"										
NE NE 29	105	24E	4	30	--	67.9	577	--	--	Gas
MESA VERDE PARTICIPATING AREA "B"										
NN NW 24	105	23E	7	3	13	56.0	3499	--	--	Gas
NON PARTICIPATING										
NE NE 11	105	23E	2							Suspended
NE SE 15	105	23E	3							Suspended
NE SW 32	105	24E	8							Suspended

NOTE.—There were _____ runs or sales of oil; _____ M cu. ft. of gas sold;

_____ runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Budget Bureau No. 42-R388A
Approval expires 12-31-68.

LAND OFFICE Utah
LEASE NUMBER _____
UNIT Southman Canyon

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County Uintah Field Southman Canyon

The following is a correct report of operations and production (including drilling and producing wells) for the month of October, 1964,

Agent's address 1008 West Sixth Street Company Shell Oil Company

Los Angeles, California 90054 Signed [Signature]

Phone 482-3131 Agent's title Section Supervisor

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL No.	DATE PRODUCTION	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
					<u>Mesa Verde Participating Area "A"</u>					
NE NE 29	105	24E	4	22	-	67.9	477	-	-	Gas
					<u>Mesa Verde Participating Area "B"</u>					
NW NW 24	105	23E	7	31	-	56.0	5249	-	-	Gas
					<u>Non-Participating</u>					
NE NE 11	105	23E	2							Suspended
NE S 15	105	23E	3							Suspended
NE SW 32	105	24E	8							Suspended

NOTE.—There were -0- runs or sales of oil; 5514 M cu. ft. of gas sold;

3 runs or sales of gasoline during the month. (Write "no" where applicable.)
NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Southman Canyon

LESSEE'S MONTHLY REPORT OF OPERATIONS

County Utah Field Southman Canyon

The following is a correct report of operations and production (including drilling and producing wells) for the month of November, 1964.

Lessee's address 1022 West Sixth Street Company Shell Oil Company
Los Angeles, California 90058

Phone 482-3131 Agent's title Section Supervisor

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	WELL DEPTH (FEET)	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (in thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
<u>Mesa Verde Participating Area "A"</u>										
NE NE 29	105	24E	4	30	-	60.0	1700	-	-	Gas
<u>Mesa Verde Participating Area "B"</u>										
NW NW 24	105	23E	7	30	13	56.0	6148	-	-	Gas
<u>Non-Participating</u>										
NE NE 11	105	23E	2							Suspended
NE S 15	105	23E	3							Suspended
NE SW 32	105	24E	8							Suspended

NOTE.—There were 0 runs or sales of oil; 7608 M cu. ft. of gas sold;

0 runs or sales of gasoline during the month. (Write "no" where applicable.)
NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

*Original
Bopples SW*

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Utah
LEASE NUMBER _____
UNIT Southman Canyon

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County Uintah Field Southman Canyon

The following is a correct report of operations and production (including drilling and producing wells) for the month of December, 19 64

Agent's address 1008 West Sixth Street Company Shell Oil Company
Los Angeles, California 90054 Signed *R.B. Jackson*

Phone 482-3131 Agent's title Section Supervisor

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUING	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (in thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, exact date and result of test for gasoline content of gas)
<u>Mesa Verde Participating Area "A"</u>										
NE NE 29	105	24E	4	31	-	67.9	1,357	-	-	Gas
<u>Mesa Verde Participating Area "B"</u>										
NW NW 24	105	23E	7	31	17	56.0	4,677	-	-	Gas
<u>Non-Participating</u>										
NE NE 11	105	23E	2							Suspended
NE S 15	105	23E	3							Suspended
NE SW 32	105	24E	8							Suspended

Le

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO. ML 3216
2. NAME OF OPERATOR Consolidated Oil & Gas, Inc.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR P.O. BOX 2038, FARMINGTON, NEW MEXICO 87499		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1820' FSL & 1980' FWL		8. FARM OR LEASE NAME SOUTHMAN CANYON
14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5608'GR	9. WELL NO. 8
		10. FIELD AND POOL, OR WILDCAT Wildcat
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec 32, T10S, R24E
		12. COUNTY OR PARISH Uintah
		13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input checked="" type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

This well is nonproductive. We intend to plug & abandon as follows:

- 1) MIRUSU, install BOP. TOH w/ tubing.
- 2) Set cast iron bridge plug @ 5645' covering perfs from 5649'-6063'.
- 3) TIH w/ tbg & set 17 cu ft cement plug on top of cast iron bridge plug.
- 4) Fill hole w/ 9 PPG mud to 2850' & TOH.
- 5) Perf csg @ 2850'. TIH w/ packer. Pump 75 cu ft cement. Displace to 2650' covering inside & outside of 5-1/2" csg 100' above & 100' below intermediate shoe.
- 6) Fill hole w/ 9 PPG mud to 122'.
- 7) Set plug across surface shoe 100' below to surface w/ 30 cu ft cement.
- 8) Try to squeeze bradenhead between 8-5/8" & 5-1/2" csg.
- 9) Install P & A marker.
- 10) Clean up location.

APPROVED BY THE STATE RECEIVED
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 7/13/84
BY: [Signature]
DIVISION OF OIL GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED [Signature] TITLE Drilling Foreman DATE 7-3-84

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

STATE OF UTAH
DIVISION OF OIL, GAS, & MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO. ML 3216	
2. NAME OF OPERATOR Consolidated Oil & Gas, Inc.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
3. ADDRESS OF OPERATOR PO Box 2038, Farmington, NM 87409		7. UNIT AGREEMENT NAME	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1820' FSL & 1980' FWL		8. FAEM OR LEASE NAME SOUTHMAN CANYON	
14. PERMIT NO.		9. WELL NO. 8	
15. ELEVATIONS (Show whether DF, RT, CR, etc.) 5608'GR		10. FIELD AND POOL, OR WILDCAT Wildcat	
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec 32, T10S, R24E	
		12. COUNTY OR PARISH Uintah	13. STATE Utah

RECEIVED
NOV 23 1984

DIVISION OF
OIL, GAS & MINING

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

- 11-11-84 MIRUSU. Killed well.
- 11-12-84 Removed wellhead, installed BOP. Pulled tbg. Set 5-1/2" cast iron BP @.5645'. Pump thru tbg 15 sks (17 cu ft) cmt plug. Fill csg w/ 62 bbl 9# mud from 5515' to 2850'.
- 11-13-84 Pr test to 500 psi 30 min, OK. Perf 2 shots @ 2850'. Set 5-1/2" full bore pkr @ 2454'. Cmt w/ 88 sks (103 cu ft), displace to 2650' leaving 200' plug inside & outside csg 100' above & below shoe. TOH w/ pkr & tbg.
- 11-14-84 TIH & spot 55 bbl 9# mud plug from 2650' to 222'. Set 27 sks (31 cu ft) cmt plug from 222' to surface. Squeezed bradenhead w/ 50 sks(58 cu ft) cmt. Removed BOP & wellhead. Installed P & A marker & cleaned up location.

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 11/26/84
BY: *John R. Dwyer*

18. I hereby certify that the foregoing is true and correct

SIGNED *Barbara C. Rex*

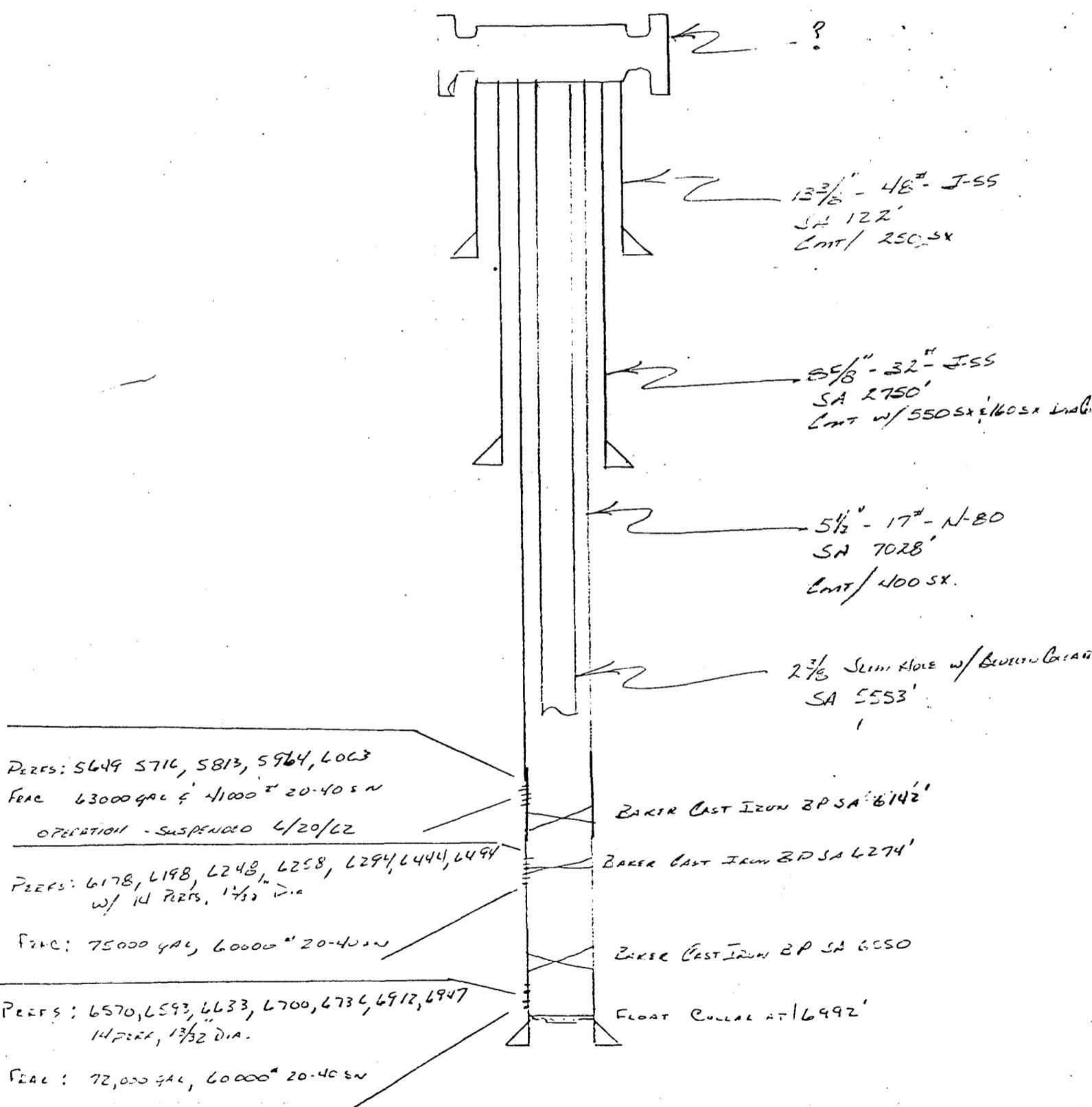
TITLE Prod. & Drlg. Technician DATE 11-20-84

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____ DATE _____

SOUTH MAIN SANYON # 8
SW/4 Sec 32 T10S R4E
WINTAH COUNTY UTAH.
EL: 5619 KB
TD: 7028'
1800' FSL @ 1980' FVUL



1250 PSI TEL
C/G DRIVE HANDLE TO OPEN
NEED 2 IN. OF REED PERMIT # 8,500