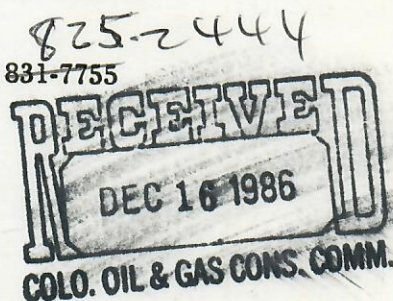




# LEWIS & CLARK EXPLORATION COMPANY

640 SPECTRUM BUILDING  
1580 LINCOLN STREET  
DENVER, COLORADO 80203 • PHONE (303) 831-7755



Larsen 23-14X  
Sec. 23-15S-46W  
Cheyenne County, CO  
Page 1

8/26/84 MIRT

8/27/84 Spud 9:30 P.M. 8/26/84. Drilling at 317', 3 hrs. down time, no Co. time, md wt 8.9, VIS 37.  
Survey: 1° at 71'  
1° at 102'  
3/4° at 162'  
1/4° at 224'  
1/4° at 317'  
Cum mud cost \$600.00

8/28/84 Drilling at 583', cut 266' last 24 hrs., 12 hrs down time, wait on cement, plus 3/4 hr. down time on pump, 2 3/4 hr down time, loss circulation at 562' & 583', no Co. time, md wt 8.9, VIS 32, 8# LCM. Survey: 1/2° at 520', Cum mud cost \$1,767. Ran 8 5/8" casing, 12 joints, tally 503.83'. Set casing at 516', total of 300 sacs, 150 sacs Halco Lite, 3% cc, plus 150 sacs Class C, 3% cc. Plug down 2:30 P.M. 8/27/84, cement did circulate. Drilled out at 2:30 A.M. 8/28/84.

8/29/84 Drilling at 1840', cut 1257' last 24 hrs, 4 hrs down time, loss circulation at 583' & 1032', no Co. time, md wt 8.9, VIS 40, water loss 14.0, 8# LCM. Survey 1/4° at 1159'. Cum mud cost \$5,367.

8/30/84 Drilling at 2290', cut 450' last 24 hrs., 12 hrs. down time, loss circulation at 2124', no Co. time, md wt 8.6, VIS 38, water loss 10.0, 14# LCM Survey: 0° at 2084', Cum mud cost \$8,572.

8/31/84 Drilling at 3140', cut 850 last 24 hrs., 1/2 hr. down time on draw work, no Co. time, md wt 9.1, VIS 40, water loss 10.0, 12# LCM, Cum mud cost \$10,465.





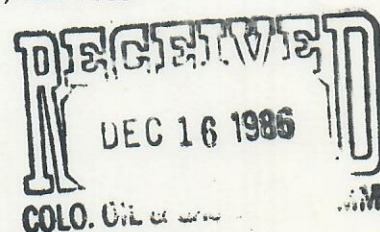
# LEWIS & CLARK EXPLORATION COMPANY

640 SPECTRUM BUILDING

1580 LINCOLN STREET

DENVER, COLORADO 80203 • PHONE (303) 831-7755

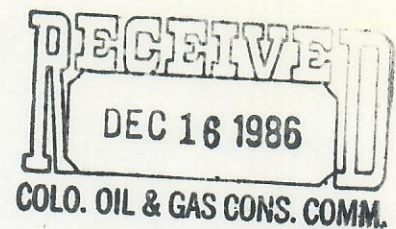
Larsen 23-14X  
Sec. 23-15S-46W  
Cheyenne County, CO  
Page 2



- 9/1/84 Drilling at 3580', cut 440' last 24 hrs., 1/4 hr. down time on pump, no Co. time, md wt 8.9, VIS 35, water loss 8.0, 4# LCM. Survey: 1/2° @ 3245', Cum mud cost \$13,320.
- 9/2/84 Drilling at 4055', cut 475' last 24 hrs., no down time, 4 1/2 hrs. Co. time, loss circulation at 3891', md wt 9.0, VIS 35, water loss 8.0, 8# LCM, Cum mud cost \$17,250.
- 9/3/84 Drilling at 4545', cut 490' last 24 hrs, no down time, no Co. time, md wt 9.5, VIS 40, water loss 8.8, 10# LCM, Cum mud cost \$20,730.
- 9/4/84 Drilling at 4745', cut 200' last 24 hrs., no down time, 15 3/4 hrs. Co time, md wt 9.3, VIS 48, water loss 8.8, 10# LCM. Survey: 1 1/4° @ 4745', Cum mud cost \$23,937.
- 9/5/84 Depth of 4766', cut 21' last 24 hrs, no down time, 23 1/4 hrs. Co. time, md wt 9.3, VIS 52, water loss 8.9, 6# LCM, Cum mud cost \$24,000.  
Remarks:  
Waiting on smaller core barrel, sub was not tightened by core man. Picked up barrel and sub came loose. Core barrel and jars dropped in hole. Went in with pipe, screwed into and pulled out of hole.
- 9/6/84 Depth of 4966', cut 200' last 24 hrs., no down time, 11 1/2 hrs. Co. time, md wt 9.1, VIS 43, water loss 8.4, 4# LCM, Cum mud cost \$25,284  
DST #1 4736' to 4766', times 15, 30, 60, 120  
Recovery: 874' total fluid recovered  
900' gas in pipe  
4' free oil  
150' Gas, Oil, & Mud Cut Water (GOMCW)  
(22% G, 3% oil, 5% mud, 70% W)  
450' GCW with oil spots  
270' Gassy water  
Sample Chamber: 2100 cc water with oil spots  
90# psi, 127° BHT
- Pressures: IF 183-248, ISI 1143  
FF 259-411 FSI 1153  
IH 2388, FH 2348



Larsen 23-14X  
Sec. 23-15S-46W  
Cheyenne County, CO  
Page 3



#### SAMPLE DESCRIPTION OF SHOWS

Interval 4752-63'

#### Lithology:

Type #1 Limestone, white, light grey, chalky, very soft with bright yellow white fluorescent and slow weak cut.

Type #2 Limestone, white, light grey, fine-medium xln, very oolitic with trace oolitic trace muggy porosity with spotty yellow white fluorescent good fast string cut spotty free oil in many samples.

Looks like an oolite, NOT oolitic.

9/7/84

Depth of 5390', cut 424' last 24 hrs., no down time, no Co. time, md wt 9.1, VIS 44, water loss 9.2, 6# LCM, Cum mud cost \$27,710.





# LEWIS & CLARK EXPLORATION COMPANY

640 SPECTRUM BUILDING

1580 LINCOLN STREET

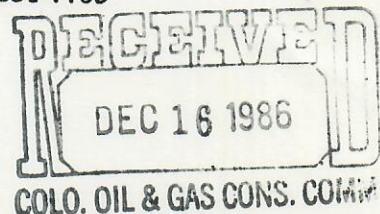
DENVER, COLORADO 80203 • PHONE (303) 831-7755

Larsen 23-14X

Sec. 23-15S-46W

Cheyenne County, CO

Page 4



9/8/84

Depth of 5659', cut 269' last 24 hrs., no down time, 12 1/4 hrs. Co. time. Loss circulation and stuck.

Remarks: Loss circulation pump, 2 pits of mud, no circulation, pull out of hole. Went in open-ended, spotted 25 sacs of sand at 5336', let settle, went in to 5475' and hit a bridge. Partial return. Tried to circulate, no return. Can still pump with no circulation.

9/9/84

Depth of 5659', cut no feet last 24 hrs., no down time, 24 hrs. Co time, md wt 8.6, VIS 59, water loss 8.4, 8# LCM, Cum mud cost \$36,035.

Remarks: Free point - stuck on bottom of pipe at 5470', backed off at 5440'. Left 1 joint of pipe in hole, pull out of hole with mud. Went in and conditioned, go in hole with wash pipe.

9/10/84

Depth of 5659', no down time, 24 hrs. Co time. Washed over, pull out of hole. Went in with over-shot, couldn't get hold, pull out of hole. Went back with over-shot and kinked joint of pipe, could get a hold. Go in hole with bit to locate top of pipe.

9/11/84

Depth of 5659', no down time, 24 hrs. Co. time, md wt 8.8, VIS 100, water loss 7.2, 8# LCM, Cum mud cost \$37,087.

Remarks: Go in hole with wash over pipe, wash to 5499', bottomed out. Go in hole with over-shot and wall hook, no luck. Pulled grapple out of over-shot. Go in hole with 2 joints wash over pipe, wash to 5527', bottomed out. Pull out of hole.

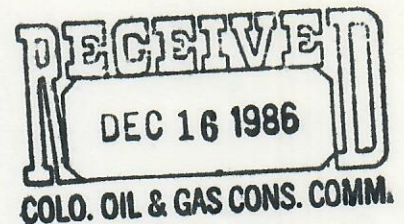
9/12/84

RTD 5659', no down time, md wt 8.8, VIS 80, water loss 7.6, 6# LCM, Cum mud cost \$39,397.

Remarks: Trip in hole, screwed into fish, fish out of hole 4:30 P.M. 9/11/84. Hole complete 6:45 P.M. 9/7/84. No log to run pipe.



Larsen 23-14X  
Sec. 23-15S-46W  
Cheyenne County, CO  
Page 5



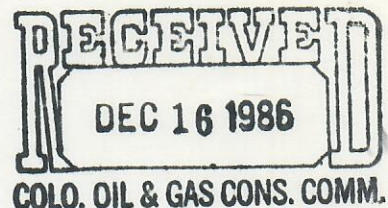
9/13/84

Ran 142 joints, 5 1/2" J55 (75 joints, 15.5# LTC, & 67 joints, 14# STC), with 10 centralizers and 15 cable scratchers with differential float shoe on bottom and 3.5' FO intermediate cementing tool at 3132'. Landed casing at 5640'. Cemented by Haliburton with 150 sacs (245 cubic feet), 50% POZ, class C, with 2% gel, 10% salt, 0.75% CFR-2 and 12.5# gilsonite per sac. Pre-flush with 70 barrels hydrozine mud and displaced with water. Reciprocated with 8' stroke during displacement, over-pressed by 500 psi on plug - float held. Plug down at 4:00 P.M., 9/12/84. Set in slip in 8000# tension. Released rig.

9/14/84

Rigging down. Waiting on completion unit.

Larsen 23-14X  
Sec. 23-15S-46W  
Cheyenne County, CO  
Page 6



CHAMPLIN LARSEN #23-14X  
SW/4 Sec. 23, T15S-R46W  
Cheyenne County, Colorado

Preliminary Completion Procedure

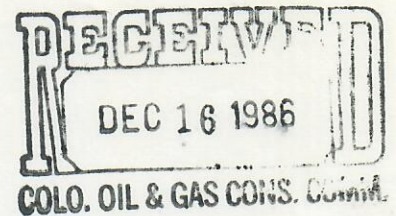
WELL DATA:

Elevation: 4487 (13' above ground at 4474')  
Total Depth: 5700'  
Casing: 8 5/8" @ 516 cemented to surface  
5 1/2" 14 & 15.5#/ft, J55 cemented in 2 stages  
with DV tool at approximately 3175'  
Tubing: 2 7/8", 6.5#/ft, EUE

Note: All depths referenced to KB 4482', AGL

1. MIRU double drum, double derrick unit with power swivel and spot service tank and fill with water.
2. MI and tally 5660' of 2 7/8", 6.5# EUE tubing.
3. TIH with 4 3/4" mill tooth bit and drill DV plug at approx. 3175', then clean out to bottom plug at approx. 5655'.
4. MIRU wireline unit and run CBL, GR and collar locator.
5. Determine if squeeze job necessary.
6. Run casing swab and swab fluid level down to approx. 3000'.
7. Perf Mississippian Spergen from 5563-5585' = 22' with 4 jspf casing jets.
8. TIH with tubing with perf nipple, seat nipple, and anchor.
9. Spot 100 gal. mud acid across perfs and fill casing with water to displace.
10. Swab back to test.
11. Repeat with 500 gal. 15% HCL if further stimulation required.
12. Run 7/8" & 3/4" rods with 2" bottom hole, pump to complete.
13. Space out rods and put on pump.





9/21/84

Rig up Mercury wire line on 9/18/84 and ran GR-Newtron-CBL and collar locator. Plugged back total depth 5596' K.B. Good correlation points with Larson #1 RDD, good cement bond overall. Top of cement 4790' (850' fill up). Move in and rigging up Mustang Completion Unit. Tally 2 7/8", 6.5# EUE tubing. Prep to open FO stage 2 at 3132' and cement across up hole salt zones.  
Est. Cost \$16,100 (cost includes 75% est. tubing)

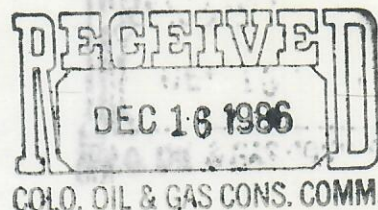
9/22/84

Rig up Halliburton FO finger tools and TIH with 107 joints of tubing to 3132 and open FO sleeve in 5 1/2" casing. Pump 40 barrels Hydrazine water preflush followed by 250 sacs HB light cement (500 CF). Displaced with 17.5 barrels water. Lowered tubing and closed FO Sleeve. Pressured to 500 psi and held OK. Reverse circulating 25 barrels water to clean tubing of cement. Good circulation throughout. TOH with tubing and swabbed fluid level to 3000'. Rig up Mercury wire line and perf Spergen from 5550-5568', (equiv. to 5558-5576 on Larson #1 RDD log) with 4-22 gram shots per foot (72 holes). Pulled up 1 stand tubing. Arrow packer and start in hole with tubing.  
Est. Day Cost \$11,275  
Est. Cum Cost \$27,375

9/23/84

Finish in hole with 181 joints 2 7/8" tubing to 5600'. Rig up Halliburton and pump 500 gal 7 1/2% MCA followed by 20 barrels 2% KCL water to spot on bottom. Could not set packer. RIH with swab and found fluid level at 2300' after 15 min., at 2550' after 30 min., at 2750' after 60 min., and at 2900' after 90 min. All acid displaced with total load of 100 barrels. Swabbed down to stable fluid level of 4700' (800' above SN) and swabbed total 120 barrels fluid, 20 barrels overload. Fluid entry est. 25 barrels/hr with less than 1% oil. Shut well in for night. Sample Analysis: Specific Gravity 1.015, Ph 6.8, Chlorides 13,535, Calcium 5,175, Sulfides and Iron heavy, Rw = 0.265 @ 75°.  
Est. Day Cost \$3,755  
Est. Cum Cost \$31,130





9/24/84      Opened well - tubing dead. Ran swab and found fluid level at 3900'. (FU 1600' - 800' overnight). Est. bottom hole pressure 705 psi. Swabbed 25 barrels very slight oil cut water (less than 1%) and TOH with tubing. Total recovery 45 barrels overload. Pulled up orange peeled slotted mud anchor and TIH with 180 joints 2 7/8", 6.5# EUE tubing and set as follows:

	<u>Tally</u>	<u>Depth from KB</u> <u>(13" AGL)</u>
- Slotted Mud Anchor (Slotted Top 8.5')	30.70'	5596' btm
- Seating Nipple	1.10'	5565'
- 2 Joints Tubing	61.00'	5564'
- Tubing Anchor	3.10'	5503'
- 178 Joints Tubing	5490.38'	5500'
	5586.28'	

Set tubing anchor with 1000# tension. Ran rebuilt 1 3/4" x 2 1/2" x 16' x 19' x 20'. RHBC bottom hole pump with 1 1/4" x 8' gas anchor on 146 - 3/4" rods (3,650') and 75 - 7/8" scraped rods (1,875') and 1 1/2" x 30' polished rod with 1 3/4" x 14' liner - all transferred from Larson #1 RDD. Pump checked out on surface OK. Spaced out pump and ready to set pad and unit for production. Last Sample Analysis: Specific Gravity 1.023, Ph 7.0, Chlorides 30,078, Sulfides moderate, Iron heavy, Rw = 0.14 @ 87".  
 Est. Day Cost \$9,000  
 Est. Cum Cost \$39,730

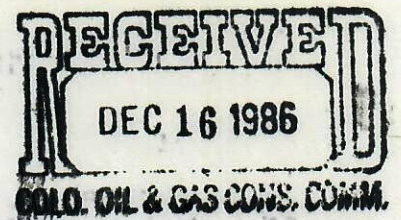
9/25/84      Set concrete pad and moved part of National 228D pumping unit from Larson #1 RDD.

9/26/84      Finished setting pumping unit and engine. Set propane tank and ditched for lead line.

9/27/84      Started unit and put on pump.



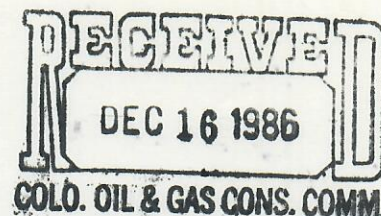
Larsen 23-14X  
Sec. 23-15S-46W  
Cheyenne County, CO  
Page 9



10/02/84      Pumping estimated 285 barrels fluid with less than 1% oil.

10/9/84      Pumping approx. 275 barrels fluid with less than 1% oil





- 3/26/85 MIRU DJR Service Unit. Pulled and layed down rods and bottom hole pump. Shut down for extremely high winds.
- 3/27/85 Shut down for extremely high winds.
- 3/38/85 TOH with 90 stands, 2 7/8" tbg and lay down mud anchor, 2 joints tubing and tubing anchor. Pulled up 60 horse power 229 stage Reda Pump and TIH with 17 stands tubing. Set 140 KWL Engine-Generator Set, 480-1500 volt auto transformer, size 3-1500 volt Reda switch board and high voltage junction box. Shut down for extremely high winds.
- 3/29/85 Finish in hole with Reda Pump and total of 89 stands tubing with pump set at 5530' K.B. Released rig. Shot static fluid level and nipple up well head. Connected electrical system, adjusted engine and started pump. Gauged 460 barrels fluid in 18 1/2 hours (600 bbls/day) at approximately 2% oil cut.
- 3/30/85 Pump 520 barrels fluid in 10 hours, 2% oil cut. Well pumping down with auto shut off 4 hours. Set to shut down at 85% full load amps.
- 3/31/85 Pump 575 barrels fluid in 22 hours, average 1% oil cut. 2 hours shut down, blew down gas in annulus.
- 4/1/85 Pump 220 barrels fluid in 8 1/2 hours, 1.5% oil cut, engine down 12 1/2 hours and shut down 3 hours. Adjust shut down control to 80% amps.
- 4/2/85 Pump 575 barrels fluid in 23 hours, 2% oil cut. Gauge 30 barrels oil, 2300 barrels water in tank since start of test, 1.3% oil cut. Auto shut down 1 hour. Shot pumping fluid level at 168 joints (5200'), 300' over pump. Blew down gas in annulus.
- 4/3/85 Pumped 590 barrels fluid in 24 hours with 2+% oil cut, gauged 15 barrels oil. Shot pumping fluid level at 178 joints on top of pump.
- 4/4/85 Pumped 520 barrels fluid in 24 hours. Measured 4% oil cut, gauged 8 barrels oil in tank. 53 barrels total since start of test.





4/5/85 Pumped 525 barrels fluid with average 2% oil cut.  
Gauged 10 barrels oil.

4/6/85 Pumped 525 barrels fluid with average 1% oil cut.  
Gauged 3 barrels oil.

4/7/85 Pumped 525 barrels fluid with average 1% oil cut.  
Gauged 5 barrels oil. Shot fluid level at 178 jts,  
top of pump.

4/8/85 Pumped 525 barrels fluid with 2 barrels oil.

4/9/85 Pumped 460 barrels fluid with 2 barrels oil. Shut down  
three hours.

4/10/85 Shut down with oil leak in generator engine.

4/11/85 Shut down waiting on parts to overhaul engine.

4/12/85 Shut down waiting on parts to overhaul engine.

4/13/85 Overhauled engine by Intermountain Power Lessor.  
Replaced main bearing seal and head gaskets. Started  
back up at 7:00 A.M. 4/13/85.

4/14/85 Pumped 612 barrels water with 0 barrels oil.

4/15/85 Pumped 525 barrels water and 2 barrels oil.

4/16/85 Pumped 540 barrels water and 3 barrels oil.

4/17/85 Pumped 530 barrels water with 2 barrels oil.

4/18/85 Pumped 525 barrels water with 2 barrels oil.

4/19/85 Pumped 510 barrels water and 1 barrel oil.

4/20/85 Pumped 534 barrels water and 2 barrels oil.

4/21/85 Pumped 526 barrels water and 2 barrels oil.

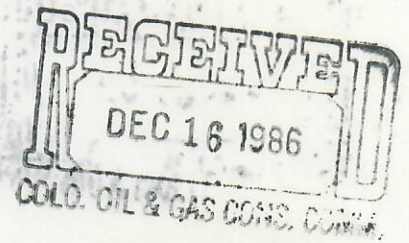
4/22/85 Pumped 515 barrels water and 1 barrel oil.

4/23/85 Pumped 533 barrels water and 1 barrel oil.

4/24/85 Pumped 506 barrels water and 1 barrel oil.



Larsen 23-14X  
Sec. 23-15S-46W  
Cheyenne County, CO  
Page 12



4/25/85      Pumped 0 barrels water and 0 barrels oil. Gas supply  
down.

4/26/85      Pumped 615 barrels water and 2 barrels oil.

4/27/85      Pumped 565 barrels water and 1 barrel oil.

4/28/85      Pumped 498 barrels water and 1 barrel oil.

4/29/85      Shut down at 10:00 A.M. FINAL REPORT!



**RECEIVED**  
DEC 16 1986  
COLO. OIL & GAS CONS. COMM.

5/8/85 RU Gibson service unit and TOH with 2 7/8" tubing and pump. Laid down 178 jts and ran maintenance check on cable and pump by Reda service engineer. Checked out A/OK. Set 10' sub in wellhead and released rig at 3:00 P.M. Pump, engine, generator, transformer and controlled transferred to TXO - Lowe #1-26.  
FINAL REPORT

Summering Production 3/29 - 4/29 - approx 106 ± FO  
" " 13,500 BW