

# Renegade Oil & Gas Company

## Michell #1

SW NE SECTION 32, T4S, R62W

DRAGOON FIELD

ARAPAHOE COUNTY, COLORADO

### WORKOVER REPORT

Note: When cementing sleeve tool in April of 1975 a Baker Model "R" packer was lost in the hole. Packer fell to bottom likely coming to rest on sand fill from the earlier frac job.

10/25/13 – Spot in Mike's Well Service Rig #1. SDFN.

10/28/13 – RU service rig. Unhang rods. Unseat pump. Rods full of paraffin. Lay down 1 rod and prep for hot oiling. SDFD.

10/29/13 – Hot oil rods. TOH with rods and pump. Nipple down wellhead. Release tubing anchor. Tag PBTD with 16'. Tally tubing out of hole. Average joint – 30.76'. PBTD – 7434' KB. Made sand pump run. SDFN.

10/30/13 – RU hydrotester and tested in with bulldog bailer and tubing. Had mill shoe and extension on bottom. All 240 joints tubing tested good. Tag with bailer. Bailed 8' – hit hard. Tried rotating with tongs. Made no hole. Pull 1 joint. SDFN.

10/31/13 – RU power swivel. Mill on bottom most of the day. Made total 2'. Touchy torque. Start out of hole. Initially stuck on bottom. Pulling 25k over. Got free. Pulled 65 stands – still dragging. SDFN.

11/1/13 – Finish pulling tubing and bailer. With about 13 stands left (800') dragging stopped. Bailer contained drilling mud looking material, water and oil with larger chunks. Shoe was burned up, spread and rolled. Ran lead impression block. Had 2 ¾" open circle impression. TIH with bulldog bailer with SN on bottom. Tag bottom and stroke bailer. Attempt to screw into fish. Pulled 6-8k over but would fall right off. TOH. No fish. Threads gaulded. SDFN.

11/4/13 – TIH with bulldog bailer and tubing spear on bottom. Tag fish and try to drop into. Not going into. TOH. No evidence of the grapple engaged. Make up 1" cutrite collar and rerun bulldog bailer and tubing. Left just off bottom. SDFN.

11/5/13 – Tag fish at 7438'. Milled down 3'. TOH. Found 1" bent over 8" off bottom. Too windy to trip. SDFD.

11/6/13 – TIH with spear and bulldog bailer. Catch fish. Jar on fish 5 ½ hrs with no luck. Release spear. Left 2 stands out. SDFN.

11/7/13 – TOH with tubing. TIH with new spear, jars, 2 drill collars, intensifier and 2 7/8" N-80 work string tubing. Singled in about ½ way. SDFN.

11/11/13 – Finish singling with work string. Tag with 235 joints. Spear fish. Jar fish. Something released. Tag moved up 1'. Drug off bottom 1 stand and freed up. TOH. Recovered top sub and partial split mandrel of Model R packer. SDFN.

11/12/13 – TIH with new mill shoe, bulldog bailer and 2 3/8" tubing. Tag at 7439'. Bail to 7440'. Would make additional 18" and then lose it. TOH. Recovered 1 gallon BS iron sulfide chunks and metal cuttings. Shoe showed leading edge and some ID marks. RU lead impression block on 4 joints. Found sandline needs new rope socket. SDFN.

11/13/13 – Repair sandline. RIH with impression block. Had centered C of packer mandrel. TIH with spear on workstring and jars as before. Stab into fish. Would pull off. Got 6-7k bite 2' deeper – pulled off. TOH. No fish. Showed grapple wear. Eight stands of fluid in well. SDFN.

11/14/13 – TIH with bulldog bailer with 12' long 1" pipe with mill collar. Work 1" into fish. Work, rotate and bail to 7444'. Pulled out of fish and acted like 1" was bent. TOH. Cutrite collar worn badly. Mill marks up 6 1/2' on 1". SDFN.

11/15/13 – TIH with fishing string and long spear. Felt spear go right in. Would pull 4-6k over but would pull right out. TOH – no fish. Start TIH with same fishing string with larger grapple on spear. SDFN.

11/18/13 – Finish TIH. Stab into packer. Pull 7k over but won't bite. Pulls out. TOH. Found grapple packed with BS. Spear nose plugged with BS and sand. Start TIH with bulldog bailer and 12' – 1" pipe with mill collar. SDFN.

11/19/13 – Finish TIH and stab into fish. Made fast 6". Work on bottom but no new hole. TOH and recovered drilling mud substance. Small chunk gone off 1" collar. Made the decision to proceed with frac due to availability. Start TIH with frac packer and 2 7/8" N-80 tubing. SDFN.

11/20/13 – Change out wellhead with new one. Continue TIH. Set packer with 224 joints at 6995'. Set packer and test casing to 1000 psi. Held solid. SDFN.

11/25/13 – Pour another new rope socket. RU Nabors Completion & Production Services to fracture stimulate D Sand perforations from 7388'-7402'. Prep well and SDFD.

11/26/13 – Frac perforations down tubing with 36,444 gallons crosslinked 5% KCl gel containing 50,080# 20/40 white frac sand. Average treatment rate – 19 BPM. Average treatment pressure – 5000 psi. During the 4 ppg stage pressure increased and flush was called. With 28 bbls of a 47 bbl flush pressure had reached 7600 psi and a tubing string failure happened. Well flowed back until pressure was reduced and then reverse circulated to clear tubing of possible sand. Packer was released and tubing and packer was tripped out of hole. Found the 10<sup>th</sup> joint from surface was split. SDFN.

11/27/13 – TIH with hydrostatic bailer on 2 3/8" tubing. Tag sand at approximately 7300'. Attempt to bail down – made no hole. TOH. No recovery. SDFN.

12/1/13 – Pump 42 bbls production water down casing to dilute frac fluid if not completely broke.

12/2/13 – TIH with bulldog bailer with 5 stands 2 3/8" below pump and 2 7/8" above. Land above fill. RU swab. Swab well down to 4100'. SDFN.

12/3/13 – Continue swabbing down fluid level to 6700'. Ran tubing in and tag at 7330'ish. Attempt to bail down. Bailer would not fire. TOH with tubing. SDFN.

12/4/13 – Delay getting rig running in cold weather. TIH with rebuilt bailer and 2 3/8" tubing. Only ran 46 Stands. SDFN.

12/9/13 – Finish TIH. Tag. Attempt to bail. Still making no hole. TOH. SDFN.

12/10/13 – Cut and ran 15' angle cut tubing on bottom of bulldog bailer. Tag. Bail 75' of fill. TOH and dump bailer. SDFN.

12/11/13 – TIH with bulldog bailer with 3 7/8" flat bottom mill on bottom. Tag at approximately 7390'. Bail down almost 40'. Lay down 3 joints. SDFN.

12/12/13 – Pick up singles and tag. RU swivel. Had tight spot at 7395'ish. Milled and swiveled down to 7437' KB. TOH with tubing and bailer. SDFN.

12/13/13 – TIH with bulldog bailer with 2 7/8" notched collar on bottom. PU swivel and made approximately 1'. LD swivel. TOH. SDFN.

12/16/13 – Inspect 3 7/8" FBM – faint 2 1/4" circle. RIH with lead impression block – stack high at approximately 7240'. Rerun and stacked higher. Ran sand pump and also stacked high. TIH with bulldog bailer with 3 3/4" shoe. Went right to bottom. Clean 1'. Shoe at 7442'. Rotate with tongs. No more hole. Pull 6 stands. SDFN.

12/17/13 – TOH. Recovered 1 gallon sand along with 2 stands water, 1 stand mixture mud water & oil, 1 joint mud. TIH with short catch OS dressed for 2 1/4" along with 2 7/8" fishing string. Tag at 7420'. Not solid. Couldn't get deeper. Start TOH. SDFN.

12/18/13 – Finish TOH. Drilling mud and sand in OS. TIH with retrievable bridge plug and 2 3/8" tubing. Set RBP at 7350'. Pull most of tubing. Load well with produced water. SDFN.

12/19/13 – Finish TOH. Top off filling of casing. RU Warrior Energy Services. RIH and run radial CBL. Loggers TD at 7328'. Found lower cement top at 6705'. Collar locator off bottom looked very rough. Uphole cement from 1410' to 810'. DV tool at 1350'. RD loggers. TIH with packer and tubing to hole hunt. Set packer at 2250'. Pressure test below and above packer to 1500 psi and both held. Left pressure on well. SDFN.

12/20/13 – Check well pressure – well froze. Dig out surface head. Thaw well out. Release pressure. TOH with tubing and packer. Pull long string from surface slips. Run 15 joints 1" down surface casing. SDFN.

12/23/13 – Ran additional 4 joints 1" when it got solid – 475'. Pull 1" tubing out of surface casing. Move in 2 3/8" nulock tubing. SDFD.

12/27/13 – RU swivel. Ran 27 joints 2 3/8" nulock tubing down surface casing to 800'. RU Bison Oil Well Cementing. Pump and circulate hole with 30 barrels water. Mix and pump 225 sacks 15.2 ppg neat cement (1.27 cft/sack) down tubing as an annular fill job. Lay down 19 joints and mix and pump additional 30 sacks. Pull remaining tubing. Full returns were present for each stage. SDFN.

12/30/13 – RU Pioneer Wireline Services. RIH and run CBL from 1724' to surface. Uphole cement now from 1410' to surface. RD loggers. TIH with retrieving head and tubing. Land with 238 joints. RU swab. Swab fluid level to 3000'. SDFN.

12/31/13 – Continue swabbing well down. Run tubing and drop down on RBP. Release plug and TOH. SDFN.

1/2/14 – TIH with bulldog bailer with mill shoe on bottom and tubing. Tag at 7427'. RU swivel. Mill down to 7436'. RD swivel. Pull 1 stand. SDFN.

1/3/14 – TOH with tubing. No report of recovery. Ran sand pump 3 times. Sand pump stuck on third run. Cut sandline. Washout sand pump. Rebuild sand pump. SDFN.

1/7/14 – Pour new rope socket. Ran sand pump once. TIH with bulldog bailer with mill shoe on bottom and tubing. RU swivel. Mill on bottom. Tag at 7434' but would then fall to 7436'. Made very little hole. Final at 7437'. RD swivel. Pull 3 joints. SDFN.

1/8/14 – PU 3 joints. RU swivel. Mill on bottom – no more hole. RD swivel. TOH. Drain bailer – very little recovery. SDFN.

1/9/14 – Ran impression block – no usable picture. Ran sand pump – recovered sand. TIH with bulldog bailer with spear mill on bottom and tubing. Tag at 7437'ish. Work bailer making no depth. Start out of hole with tubing. SDFN.

1/10/14 – Finish pulling tubing. Recovered 1 joint of sand and 1 joint of fine powder. TIH with SN and tubing. Tag at 7438'. RU swab with EOT at 7393'. Made 4 runs. TIH and tag in same spot. Lay back down tag joints. SDFN.

1/13/14 – TIH and tag in same spot. Made 4 runs. Retag 6" higher. Start pulling tubing. SD for wind.

1/14/14 – Finish TOH. Ran sand pump. Recovering +/- 1 gallon fine sand for 5 runs. Then sand pump would hang up on bottom and started recovering large chunks of scale, rocks and sand for 4 runs. Start TIH with bulldog bailer with 3 7/8" FBM on bottom and tubing. SDFN.

1/15/14 – Finish TIH. Tag high at 7376'. Work through 6' tight spot. Clean up. Tag again at 7432 1/2'. Work very slowly to 7434'. Making no new hole. Chatter 3'-4' off bottom. Start pulling pipe. SDFN.

1/16/14 – Finish TOH. Recovered 5 joints water, 1 joint BS (frac sand, heavy black muddy water, black scale and metal shavings). TIH with bulldog bailer with shoe and tubing. RU swivel. Tag at 7433'. Tight 4' above tag. Stroke bailer and clean to 7435 1/2'. Bailer stuck. RD swivel. Start TOH. SDFN.

1/17/14 – Finish TOH. Recovered 5 joints water and 1 joint of BS (very fine sand, putty balls, very heavy mud with dime size rocks). Ran impression block. Had 2 1/4" to 2 1/2" impression. Bailer not field repairable. SDFD.

1/20/14 – TIH with bulldog bailer with shoe and tubing. Tag at 7435'. Stroke bailer with no new hole. TOH and recovered 5' frac sand, putty balls and heavy mud. Start TIH with 2 1/4" short catch OS on 2 7/8" fishing string. SDFN.

1/21/14 – Finish TIH. Tag at 7429' (TOF at 7434'). Tried to work down to fish – lost 2'. Tag now 7427'. TOH. OS grapple stuck with fine powder. Clean up. Start TIH with bulldog bailer with mill shoe and tubing. SDFN.

1/22/14 – Finish TIH. Tag and bail 2'. Wait and clean again several times. TOH. Recovered 2-3 gallons of same stuff. TIH with OS fishing string. Tag at 7433'. No indication of fish. Pull 3 joints. SDFN.

1/23/14 – Run back in hole and tag at 7430' (3' higher). TOH. Grapple stuck in OS with flour sand. TIH with bulldog bailer with 6' – 1" mill on bottom and tubing. Tag at 7435'. Attempt to make hole with tongs without success. Pull 2 joints. SDFN.

1/24/14 – RU swivel and go to bottom. Work on bottom with no new hole. Bailer sticky. RD swivel. TOH. Recovered 3' BS like before. Lost tip of 1" spear mill. Run impression block. Recovered 1" cutrite spear nipple. Rerun. No picture. SDFN.

1/27/14 – Ran sand pump twice. RU Pioneer Wireline Services. RIH and run 40 arm caliper casing inspection tool. Loggers TD at 7439'. Ran from 7437' to surface. Casing off bottom appears to be all ate up. Significant corrosion from possible acid has impacted the pipe. All appears to be below cement top of 6700'. RD wireline. SDFN.

1/29/14 – TIH with 3 7/8" metal muncher bit, 5 tubing collars and 2 3/8" tubing. Tag at 7432'. Install JU head. Prepare to drill out with nitrogen. Lay hard line. SDFN.

1/30/14 – RU swivel. RU Basic Energy Services. Drill on bottom with nitrogen foam. Made slow hole down to 7448'. Slower penetration at first then picked up. Good metal cuttings at first. Lay down 3 joints. RD Basic. SDFN.

2/3/14 – Remove JU. TOH tubing laying down collars. Start TIH with bulldog bailer with mill shoe and tubing. SDFN.

2/4/14 – Finish TIH. Attempt to swivel up and found swivel locked up. Pull 4 joints. SD for repairs.

2/7/14 – Ran back in and RU swivel. Tag at 7446'. Milled, bailed and pushed packer 6' to 7452'. Bulldog stuck. RD swivel. Start TOH. SDFN.

2/10/14 – Finish TOH. Recovered 3 joints of sand and metal. Shoe wore out. TIH as before with new shoe. Leave 4 stands off bottom. SDFN.

2/11/14 – Run 4 stands. RU swivel. Milled, bailed and pushed packer 22' to 7474'. Bailer stopped firing. RD swivel. TOH. Recovered only minor packer pieces. Redress bailer and start TIH. SDFN.

2/12/14 – Finish TIH. RU swivel. Milled, bailed and pushed 36' to 7510'. RD swivel. Start TOH laying down 2 7/8" workstring. SDFN.

2/13/14 – Finish TOH. Recovered 3 joints sand and 5 joints of muddy water. RU Pioneer Wireline Services. RIH and run CBL from 7511' to 7000' over newly deepened interval. Loggers TD at 7512'. Indicated a cavity across from perfs and also 7350'-7365'. POOH. RIH and ran 40 arm casing inspection tool from 7511' to 7300'. Newly exposed casing looks good. POOH. RIH and set composite bridge plug at 7377'. POOH. RD loggers. Load casing with water on location. SDFN.

2/14/14 – Finish loading casing with water. TIH with tubing open ended. Install JU head. Pressure test casing to 1200 psi. Unable to establish any rate. Tag BP at 7366'. Add subs so EOT is just above plug. RU Bison Oil Well Cementing. Mix and spot 45 sacks 14ppg 1.25cf/sack cement balanced plug at bottom of tubing. Pull 20 stands. Pressure cement with 1 ½ bbls water to 1300 psi. Attempt to squeeze away cement. No luck. Pressure increased to 1410 psi. Bled pressure off to 750 psi. SI well. SDFN.

2/17/14 – Well equalized at 350 psi on tubing and casing. Bled pressure. Remove JU. TOH with tubing. TIH with bit, 3 drill collars and tubing. Tag at 6545'. Pull 1 stand. Add JU. Prep to drill out. SDFN.

2/18/14 – PU swivel and drill down 9 joints. Circulate clean. Pull 1 joint. SDFN.

2/19/14 – RU swivel and drill down 8 joints. Circulate clean. Pull 1 joint. SDFN.

2/20/14 – RU swivel and drill down 7+ joints to 7361'. Circulate clean. Pull 1 joint. SDFN.

2/21/14 – Roll hole with clean produced water. RU swivel. Drill plug and push to 7505'. Lay swivel down. Remove JU. RU swab. Swab 30 barrels back. Couldn't get swab below 2400'. Pull 2 joints and try again with no success. LD swab. SDFN.

2/24/14 – Try to swab – no luck. TOH with tubing. Lay down collars. Start TIH with bull dog bailer with mill shoe and tubing. Wind came up. SD for weather.

2/25/14 – Finish TIH. Tag at 7497'. RU swivel. Swivel down 16' to 7513'. LD swivel. TOH. Recovered remaining plug and pieces. SDFN.

2/26/14 – Made 3 sand pump runs. 1<sup>st</sup> – 5 gallons mud. 2<sup>nd</sup> – 1 gallon mud & oil. 3<sup>rd</sup> – oil and water. LD sand pump. TIH with production tubing string. Land 14' off bottom. Swab. IFL at 7100'. Swab well down. Last run 50' water. SDFN.

2/27/14 – Swab. IFL at 7300'. Made 2 dry runs. Pull 600' tubing to make sure annulus was not packed off. Ran back in. Swab. FL at 7300' – recovered 120' water. Tag bottom at 7507'. Set anchor. Land tubing. Nipple up wellhead. TIH with pump and rods. Hang well on. Load tubing from tank. Spot 10 bbls down casing. Left well pumping. SDFN.

2/28/14 – Well quit pumping. Drop 5 bbls down casing. Lower rods 4". Well pumping ok. RD and MO service rig.