

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

1146843

Form ACO-1 June 2009 Form Must Be Typed Form must be Signed All blanks must be Filled

WELL COMPLETION FORM

WELL HISTORY - DESCRIPTION OF WELL & LEASE

| OPERATOR: License # | API No. 15 |
|---|--|
| Name: | Spot Description: |
| Address 1: | |
| Address 2: | Feet from North / South Line of Section |
| City: State: Zip:+ | Feet from East / West Line of Section |
| Contact Person: | |
| Phone: () | |
| CONTRACTOR: License # | |
| Name: | Lease Name:Well #: |
| Wellsite Geologist: | |
| Purchaser: | |
| | |
| Designate Type of Completion: | Elevation: Ground: Kelly Bushing: |
| New Well Re-Entry Workover | Total Depth: Plug Back Total Depth: |
| Oil WSW SWD SIOW | Amount of Surface Pipe Set and Cemented at: Feet |
| Gas D&A ENHR SIGW | Multiple Stage Cementing Collar Used? Yes No |
| OG GSW Temp. Abd. | If yes, show depth set: Feet |
| CM (Coal Bed Methane) | If Alternate II completion, cement circulated from: |
| Cathodic Other (Core, Expl., etc.): | feet depth to:w/sx cmt. |
| If Workover/Re-entry: Old Well Info as follows: | |
| Operator: | |
| Well Name: | Drilling Fluid Management Plan (Data must be collected from the Reserve Pit) |
| Original Comp. Date: Original Total Depth: | |
| Deepening Re-perf. Conv. to ENHR Conv. to SV | /D Chioride content: ppm Fluid volume: bbis |
| Conv. to GSW | Dewatering method used: |
| Plug Back: Plug Back Total Depth | Location of fluid disposal if hauled offsite: |
| Commingled Permit #: | — Operator Name: |
| Dual Completion Permit #: | |
| SWD Permit #: | Lease Name: License #: |
| ENHR Permit #: | Quarter Sec TwpS. R East West |
| GSW Permit #: | County: Permit #: |
| | |
| Spud Date or Date Reached TD Completion Date or Recompletion Date Recompletion Date Recompletion Date | |

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

| KCC Office Use ONLY |
|------------------------------------|
| Letter of Confidentiality Received |
| Date: |
| Confidential Release Date: |
| Wireline Log Received |
| Geologist Report Received |
| UIC Distribution |
| ALT I II Approved by: Date: |
| |

| | Side Two | 1146843 |
|-----------------------|-------------|---------|
| Operator Name: | Lease Name: | Well #: |
| Sec TwpS. R East West | County: | |
| | | |

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

| Drill Stem Tests Taken (Attach Additional Shee | ets) | Yes | No | Lo | - | n (Top), Depth an | | Sample |
|--|----------------------|-------------------------------|-------------------|-------------------|-------------------|-------------------|-----------------|-------------------------------|
| Samples Sent to Geologi | cal Survey | Yes | No | Nam | e | | Тор | Datum |
| Cores Taken Electric Log Run Electric Log Submitted El (If no, Submit Copy) | lectronically | ☐ Yes ☐ ☐ Yes ☐ ☐ Yes ☐ | No | | | | | |
| List All E. Logs Run: | | | | | | | | |
| | | CA | SING RECORE | D Ne | w Used | | | |
| | | Report all string | gs set-conductor, | surface, inte | rmediate, product | ion, etc. | | |
| Purpose of String | Size Hole Drilled | Size Casing Set (In O.D.) | | eight s. / Ft. | Setting Depth | Type of Cement | # Sacks Used | Type and Percent Additives |
| | | | | | | | | |

ADDITIONAL CEMENTING / SQUEEZE RECORD

| Purpose: —— Perforate | Depth Top Bottom | Type of Cement | # Sacks Used | Type and Percent Additives |
|-----------------------------|---------------------|----------------|--------------|----------------------------|
| Protect Casing Plug Back TD | | | | |
| Plug Off Zone | | | | |

| Shots Per Foot | | PERFORATION Specify For | | RD - Bridge P Each Interval I | | e | | | ement Squeeze Record I of Material Used) | Depth |
|--------------------------------------|----------|----------------------------|---------|----------------------------------|---------|---------------------|-------------------------|------------------------------|---|---------|
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| TUBING RECORD: | Siz | :e: | Set At: | | Packer | r At: | Liner R | un: | No | |
| Date of First, Resumed P | Producti | on, SWD or ENHF | ₹. | Producing N | 1ethod: | ping | Gas Lift | Other (Explain) | | |
| Estimated Production Per 24 Hours | | Oil Bb | ls. | Gas | Mcf | Wate | ər | Bbls. | Gas-Oil Ratio | Gravity |
| | | | | | | | | | | |
| DISPOSITIO | N OF G | BAS: | | | METHOD | OF COMPLE | TION: | | PRODUCTION INT | ERVAL: |
| Vented Sold | | Jsed on Lease | | Open Hole | Perf. | Dually (Submit A | Comp. AC <i>O-5)</i> | Commingled (Submit ACO-4) | | |
| (If vented, Subr | nit ACO | -18.) | | Other (Specify) | | | | | | |

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Cementing Job Summary

| | | | | | | Road t | | celler | | | h S | Safety | | | 1 | | | | |
|----------------------|---|-------------|------------|---------------|----------|-------------------------------------|--------|---------------------------------------|-----------------------|----------------------------------|------------|--------|------------------|----------------|-------|--------------|-------|----------|-------------------|
| Sold To #: 30 | | | | | | 29778 | | | | Iote #: Sales Order #: 900177985 | | | | | | | | | |
| Customer: A | NADA | RKO | PETR | OLE | UM CC | DRP - E | BUS | | Cust | omer | Re | p: WA | TK | NS, MI | KE | | | | |
| Well Name: | Santa F | e | | | | W | Vell # | : 21-3 | 3 | | | | | API/U | WI #: | | | | |
| Field: | | | City | y (S/ | AP): JC | OHNSON | N | Cou | nty/Pari | sh: St | ant | on | | | Stat | e: Ka | nsas | | |
| Contractor: | Murfin | | | | | Rig/Plat | tform | Nam | ne/Num: | 21 | | | | | | | | | |
| Job Purpose | : Cen | nent S | Surface | e Ca | sing | | | | | | | | | | | | | | |
| Well Type: D | the second second second second second second | | | | | Job Tvr | be: C | emen | t Surfac | e Casi | ina | | | | | | | | |
| Sales Persor | | | | ARY | | | | | CARRI | | 0 | | M | SU ID E | mp # | : 371 | 263 | | |
| | | , | | | 1 | EDUAR | | | | | | | | | | | | | |
| | | | | 1 | r | 2 M - 2014 CF - Tanan - 2012 Carrow | | | Person | | | | | | | | | | |
| HES Emp | Name | | xp Hrs | | np# | | | Name | | p Hrs | | np # | | HES E | | | | xp Hrs | Emp # |
| CARRILLO, | errille | 6 | 6.5 | 371 | 263 | LUNA, J | JOSE | A | 6 | .5 | 480 | 0456 | S | PENCE, | PAT | | 6 | 5.5 | 534792 |
| EDUARDO C TORRES, | amilo | 6 | 6.5 | 34/ | 1233 | | | | | | | | - | | | | | | |
| CLEMENTE | | | | 34- | +233 | | | | | | | | | | | | | | |
| | | | | J | | | | Ea | uipmen | t | | | | ę | | | 1 | | |
| HES Unit # | Dista | nce-1 | way I | HES | 6 Unit # | Dista | ance- | 1 way | | - 6 Unit # | # | Dista | nce | -1 way | HES | Unit | # | Distan | ce-1 way |
| 10243558 | 85 mil | | | | 36731 | 85 mil | | · · · · · · · · · · · · · · · · · · · | | 4298C | | 85 mil | | | | 8832 | | 35 mile | |
| 10998524 | 85 mil | e | | 111: | 33699 | 85 mil | le | | 1151 | | | 85 mil | ρ | | | | | | |
| 10000021 | 00 1111 | | | | | | | | b Hours | | | | | | | | | | |
| Dete | On Lo | antio | | | in a l | Date | | | | 7 | | | r | Data | | | | | |
| Date | | urs | | perat Hour | - | Date | | | ocation ours | Оре | loui | - | | Date | , c | n Loo Hou | | | perating Hours |
| 1/31/2013 | | .5 | | 1.45 | | | | | 5415 | | oui | 3 | | | | not | 115 | | Tours |
| TOTAL | | .0 | | 1.40 | <u> </u> | . in same a | l_ | | Total is | the si | im (| ofeach | | umn sep | arate | V | | | |
| | | | | Jo | h | | | | Totarie | | | | 001 | | b Tin | | | | |
| Formation Na | me | | | 001 | <u> </u> | CARDON MALL | | | | | 11.4.1 | | | Dat | | | Time | Tir | ne Zone |
| Formation De | | D) To | n | | | Bott | om | | | Called | | ıt | | 31 - Jan | | | 08:00 | | CST |
| Form Type | | <i>y</i> 10 | | | BHST | Don | 1 | | | On Lo | | | | 31 - Jan | | | 12:30 | | CST |
| Job depth MC |) | 16 | 671. ft | | | epth TVI | D | 1 | 671. ft | Job S | | | | 31 - Jan | | | 16:26 | | CST |
| Water Depth | | | | | | Above I | | | 5. ft | | | pleted | | 31 - Jan | | | 17:45 | | CST |
| Perforation D | epth (N | ID) Fr | om | | 1 | То | 1 | | | Depar | | | | 31 - Jan | | | 9:25 | | CST |
| | | | | | | | | W | ell Data | | | | | | | | | | |
| Descriptio | n N | ew / | Ma | x | Size | ID | Wei | | | nread | | (| Gra | de To | p MD | Bo | tom | Тор | Botton |
| | | lsed | press | ure | in | in | Ibm | _ | | | | | | | ft | | D | TVD | TVD |
| | | | psi | g | | | | | | | | | | | | | ft | ft | ft |
| 12 1/4" Surfac | e | | | | | 12.25 | | | | | | | | | | 16 | 05. | | |
| Hole | | | | | 0.005 | 0.007 | | | | 1070 | 21 | | | _ | | | 0.5 | | ļ |
| 8 5/8" Surface | e Ur | know | | | 8.625 | 8.097 | 24 | 4. | 8 RD |) (ST&(| (ز | | J-5 | 5 | • | 16 | 05. | | |
| Casing | | n | |] | | C | alací | Pont | al/3 rd Pa | rty /L | FO | | | | | | | | 1 |
| | and the | | | | Docaria | | aies/ | Renta | alij Pa | пту (П | L 3 | | +++ | Otre | | anth | I | <u> </u> | lior |
| PLUG,CMTG, | | | | | | | | | | | | | 2 ty 1 | Qty uor EA | | epth | | Supp | mer |
| | | | v =, / .20 | | 10.09 IV | | | | | | | | 1 | | | | | | |
| SHOE, GID, 8-5 | | | | 2.04 | lbo/ft | | | | | | | | | EA | | | | | |
| VLVASSY,INS | | | | | IDS/TT | | | | | | | | 1 | EA | | | 1 | | |
| FILLUP ASSY | | | | | <u> </u> | | | | | | | | 1 | EA | | | | | |
| CENTRALIZE | | | | | X ن | | | | | | | | 7 | EA | | | | | |
| CLAMP - LIMI | | | | | | | | | | | | | 1 | EA | | | | | |
| BASKET - CEI | | 8 5/8 | CSG > | < 12 · | 1/4 | | | | | | | | 1 | EA | | | | | |
| KIT, HALL WE | | | | | | | | | | | | 1 1 | 1 | EA | 1 | | 1 | | |

| A. S. | | | | | | Tools a | ind Ac | cessorie | S | | | | |
|------------|------|-----|------|-------|-------------|---------|--------|----------|-------|-------------|-------|-----|------|
| Туре | Size | Qty | Make | Depth | Туре | Size | Qty | Make | Depth | Туре | Size | Qty | Make |
| Guide Shoe | | | | | Packer | | | | | Top Plug | 8 5/5 | 1 | Н |
| Float Shoe | | | | | Bridge Plug | | | | | Bottom Plug | | | |

Cementing Job Summary

| Float (| Collar | | | Reta | iner | | | | SSR | plug set | | | T | |
|------------|-------------|-------------|-----------------|---------------|------------|----------|-------------|--|------------------------------|-----------------|---------------------|-----------------|------------------|-----|
| Insert | Float | | | | | | | | | Containe | r 85/5 | 1 | | Н |
| Stage | Tool | | | | | | | | Cent | ralizers | | | | |
| | | C. Processi | | | | | eous Mat | erials | | | e de la | | | |
| Gelling | | | Cor | | Surfacta | nt | | Conc | Acid | Туре | | Qty | Con | c % |
| Treatm | nent Fld | | Cor | IC | Inhibitor | | | Conc | Sand | d Type | | Size | Qty | |
| | | 1 | C. In Contained | | | Flu | id Data | | and the second | | | | | |
| St | age/Plug | | | | | | | | | | | | | |
| Fluid # | Stage T | уре | | Fluid N | ame | | Qty | Qty uom | Mixing Density Ibm/gal | Yield ft3/sk | Mix Fluid Gal/sk | Rate bbl/min | Total Fluid (| |
| 1 | Water Pre | e-Flush | | | | | 10.00 | bbl | 8.33 | .0 | .0 | 6.0 | | |
| 2 | Lead Slui | rry | VARICE | M (TM) CEME | ENT (45200 |)9) | 410.0 | sacks | 11.4 | 2.95 | 18.09 | 6.0 | 18. | 09 |
| | 3 % | | CALCIUN | I CHLORIDE | , PELLET, | 50 LB (1 | 01509387 |) | | | | 1 | L | |
| | 0.1 % | | WG-17, 5 | 50 LB SK (10 | 0003623) | | | | | | | | | |
| | 0.5 lbm | | POLY-E- | FLAKE (1012 | 216940) | | | | | | | | | |
| | 18.09 Gal | | FRESH V | VATER | 5 | | | | | | | | | |
| 3 | Tail Slurr | у | HALCEN | I (TM) SYSTE | EM (452986 | 5) | 200.0 | sacks | 15.6 | 1.2 | 5.22 | 6.0 | 5.2 | 22 |
| | 2 % | | CALCIUN | I CHLORIDE | , PELLET, | 50 LB (1 | 01509387 |) | | | | | | |
| | 0.25 lbm | | POLY-E- | FLAKE (1012 | 216940) | | | | | | | | | |
| | 5.218 Gal | | FRESH V | VATER | | | | | | | | | | |
| 4 | Displacer | nent | | | | | 100.00 | bbl | 8.33 | .0 | .0 | .0 | | |
| Ca | alculated ' | Values | ; | Pressur | es | 12.536 | M. Harris | 1. | V | olumes | | 1.1.1 | and the second | |
| Displa | cement | 104 | l Shut | In: Instant | | Lost R | eturns | 0 | Cement S | lurry | 259 | Pad | | |
| Гор О | Cement | Surfa | ce 5 Mir | ו | | Cemen | t Returns | 64 | Actual Di | splaceme | nt 104 | Treatm | nent | |
| Frac G | radient | | 15 M | in | | Spacer | S | 10 | Load and | Breakdov | vn | Total J | ob | 373 |
| | | | | | | F | lates | | | | | | | |
| | lating | 6 | | Mixing | | 3 | Displac | ement | 6 | | Avg. Jo | ob | 6 | |
| | ent Left In | | Amount | | | e Joint | | | | | | | | |
| Frac I | Ring # 1 @ | | ID I | Frac ring # 2 | @ | ID | Frac Rin | | |) F | rac Ring | #4@ | ID | |
| Tł | ne Inform | nation | Stated | Herein Is (| Correct | Custon | ner Represe | entative S | Signature | | 1 | | | |

Cementing Job Log

| Sold To #: 300466 | Ship To #: 29 | | | uote #: | with Sat | | Sales | Order #: 900177985 |
|--|---------------------|------------------------------|--|--------------------|--------------------|-------------------------------------|-------------|--|
| Customer: ANADARKO PETR | | | | | Rep: W | ATKINS, | | |
| Well Name: Santa Fe | | Well # | and the second second second second second | | | | /UWI #: | |
| Field: City | (SAP): JOHN | ISON C | ounty/P | arish: St | anton | ····· | | Kansas |
| Legal Description: | | | | | | | | |
| Lat: | | | L | ong: | | | | |
| Contractor: Murfin | Rig | /Platform | | | | | | |
| Job Purpose: Cement Surface | | | | | | Ticket | Amount: | |
| Well Type: Development Well | Jol | o Type: Ce | ment Su | rface Ca | sing | | | |
| Sales Person: KRANZ, ZACH | ARY Srv | vc Supervi s UARDO | | | | MBU I |) Emp #: | 371263 |
| Activity Description | Date/Tim | | Rate bbl/ min | b | ume bl | p | sure sig | Comments |
| | | # | | Stage | Total | Tubing | Casing | |
| Call Out | 01/31/2013 08:00 | | | | | | | Dispach Calle Cement Crew Out For Anadarko Job On Well Santa Fe # 21-3. A 8 5/8 Surface Casing Job. |
| Other | 01/31/201: 09:00 | - | | | | | | Loading Equipment. |
| Pre-Convoy Safety Meeting | 01/31/2013 09:30 | 3 | | | | | | Discussed All Routs To Take And Hazards On The Road. Discussed All Stops. |
| Arrive At Loc | 01/31/2013 12:30 | 3 | | | P | | | |
| Assessment Of Location Safety Meeting | 01/31/2013 12:35 | | | | | | | Rig Was Circulating Hole With Drill Pipe Wating On Welder. |
| Other | 01/31/2013 12:40 | 3 | | | | | | Got Numbers From Customer Rep // TD = 1670 FT // TP = 1671 FT // SJ = 41.65 FT // Disp = 104 BBLS. |
| Pre-Rig Up Safety Meeting | 01/31/2013 13:00 | 3 | | | | | | Discussed All Red Zones Were To Spot In Equipment And Run Lines. Have Spoter At All Times. Whent Over JSA. |
| Other | 01/31/2013 13:05 | 3 | | | | | | Rig Triping Out Of Hole. |
| Other | 01/31/2013 13:50 | 3 | | | | | | Casing Crew Rigging Up. |
| Rig-Up Completed | 01/31/2013 14:00 | 3 | | | | | | |
| Activity Description | Date/Tim | e Cht # | Rate bbl/ min | Volu b Stage | ume bl Total | Pressure psig Tubing Casing | | Comments |

Quote # :

Cementing Job Log

| Activity Description | Date/Time | Cht # | bbl/ min | States and the second second second | bl Total | ps Tubing | casing | Comments |
|---|-----------------------------------|----------|-------------|-------------------------------------|-------------|--------------|------------|---|
| | 17:18 | | Rate | Vol | ume | Pres | sure | |
| Shutdown Drop Plug | 01/31/2013 17:17 01/31/2013 | | | | | | | |
| Pump Tail Cement | 01/31/2013 17:09 | | 5.5 | 43 | 269 | | 230.0 | Pumped 200 SKS CMT @ 15.6 PPG // 200 = 43 BBLS CMT // 200 X 1.2 = 240 CU/FT CMT Tail CMT. |
| Other | 01/31/2013 16:50 | | | | | | | Got Cement Returs On Tail Cement @ 30 BBLS Into Tail Cement Got 230 BBLS Cement Returs To Pit. |
| Pump Lead Cement | 01/31/2013 16:34 | | 6 | 216 | 226 | | 160.0 | Pumped 410 SKS CMT @ 11.4 PPG // 410 = 216 BBLS CMT // 410 X 2.95 = 1209.5 CU/FT Lead CMT. |
| Pump Spacer 1 | 01/31/2013 16:29 | | 2.5 | 10 | 10 | | 140.0 | Pumped 10 BBLS H2O Fresh Water. |
| Test Lines | 01/31/2013 16:27 | | | | | | 2500. 0 | Test Lines @ 2500 PSI. Heal For 1 Min. |
| Start Job | 01/31/2013 16:26 | | | | | | | |
| Pre-Job Safety Meeting | 01/31/2013 16:00 | | | | | | | Discussed Job Step With All On Location Whent Over Numbers With Customer Rep Pumping Rates And PSI Had Rig Hands Sign Safety Sheet. |
| Other | 01/31/2013 15:40 | | | | | | | Rig Circulating Customer Rep Said Theye Were Going To Circulat For 1 HR. |
| Other | 01/31/2013 15:30 | | | | | | | Casing At Bottom |
| Other | 01/31/2013 14:30 | | | | | | | Rig Runing In Casing In Hole. |
| Wait on Customer or Customer Sub-Contractor Equip | 01/31/2013 14:01 | | | | | | | Wating On Rig. |

Sold To # : 300466 SUMMIT Version: 7.3.0073

Cementing Job Log

| Pump Displacement | 01/31/2013 17:19 | 6 | 104 | 373 | 100.0 | Pumped 104 BBLS Fresh Water Displacment. Pumped @ 6 BPM @ 100 PSI Got CMT Retuns @ 40 BBLS Into Displacement. Got 64 BBLS CMT Retuns Up To Surface. |
|-----------------------------|---------------------|---|-----|---------|-------|--|
| Displ Reached Cmnt | 01/31/2013 17:29 | 6 | 104 | 373 | | Displacement Reaced CMT @ 50 BBLS Into Displacement @ 6 BPM @ 200 PSI. |
| Slow Rate | 01/31/2013 17:36 | 2 | 104 | 373 | 420.0 | Slowed Down Last 10 BBLS Displacment @ 2 BPM. @ 420 PSI. |
| Bump Plug | 01/31/2013 17:39 | 2 | 104 | 373 | 850.0 | Bumped @ 850 Took To 1335 PSI 500 Over. |
| Check Floats | 01/31/2013 17:42 | | | ч. - | | Got 1 BBLS Baclk Floats Are Good. |
| End Job | 01/31/2013 17:45 | | | | | |
| Pre-Rig Down Safety Meeting | 01/31/2013 18:00 | | | | | Discussed All Red Zones Proper Lifting Spoting Equipment Out Of Location |
| Rig-Down Completed | 01/31/2013 19:00 | | | | | |
| Crew Leave Location | 01/31/2013 19:10 | | | | | Discussed All Routs And Stops Back To Yard. |
| Other | 01/31/2013 19:25 | | | | | Thank You Ed And Crew Halliburton. |

| | Cer | menting | Job | Summary |
|-------|--------|---------|-----|---------|
| EED C | 0.0040 | 111 | | |

| | | | | | The | Road t | to Ex | cell | ence S | tart | s wit | h S | Safety | JL) | | | | | | | |
|----------------------|---------|----------|---------------|-------------------------|------------|----------|----------|------------|----------|-------------------|--------|-------|---------------------|------|-----------------|------------|--------|------------|-----------|--------|------------|
| Sold To #: 30 | 00466 | 3 | | Ship T | | 29778 | | | | ote | | | | - | ····· | S | ales | Order | #: | 90020 | 8352 |
| Customer: A | NAD | ARKO | | | | | | | | | | Rei | p: W/ | ATK | INS, N | | | | | | |
| Well Name: S | | | | | | | | | -3 | | | - | - | | | | | 5-187- | -212 | 212 | |
| Field: | | | City | (SAP |): .10 | OHNSON | | | unty/Pa | | | | | | | | | Kans | | | |
| Legal Descri | intior | . Sect | | | | | | - <u> </u> | | | | arre | | | | | tuto. | rano | <u>uo</u> | | |
| Contractor: | | | 1011 2 1 | 10111 | | Rig/Plat | | | | m. | 21 | | | | | | | | | | |
| Job Purpose | | | Produc | tion Ca | | | uom | ina | meritu | | 21 | | | | | | | | | | |
| Well Type: D | | | | | | Job Typ | 2010 | omo | nt Drog | ducti | ion (| `aci | ina | | | | | | | | |
| | | | | | | | | | | | | | | 8.0 | | F | | 44044 | 22 | | |
| Sales Persor | | τAINZ, | | | | Srvc Su | iperv | | | | | A | SIAN | IVI | BU ID | EW | р#: | 44212 | 23 | | |
| | Mana | | | 1 | <u>ш</u> Т | | F | | Perso | | | | | 1 | 1150 | | | | - | | F 4 |
| HES Emp AGUILERA, | | | хр нгs 5.5 | Emp 44212 | | HEIDT, | Emp | | ne | ⊏xp 5.5 | Hrs | | mp # 7102 | - | HES IENDC | | p Nan | | EX | p Hrs | |
| J | FADIA | -111 5 | 0.0 | 44212 | | Nicholas | | 10 | | 5.5 | | 51 | 1102 | | IENDC | iΖA, | VICIC | JR | 0. | .э | 442596 |
| NASH, JONA Clark | ATHAI | N E | 6.5 | 52460 | | RAMIRE | | ORG | Ξ | 1 | | 498 | 8481 | | ODRIG | | Z, EDO | GAR | 1 | | 442125 |
| | | t | | | k | | | E | quipm | ent | | | | | | | | | | | |
| HES Unit # | Dist | ance-1 | way | HES U | nit # | Dista | ance- | | | | Unit # | ¥ | Dista | ince | -1 way | | HESU | Jnit # | | Distan | ce-1 way |
| | | | | | | | | | - | | | | - | | | | | | | | |
| | | | l. | | | | | J | ob Hou | urs | | | | | | | | | | | |
| Date | On L | ocatio | n Or | perating | | Date | | | Locatio | | Ope | erati | ina | Γ | Date | | On | Locat | ion | O | perating |
| | Н | lours | | Hours | | | | I | Hours | | | loui | | | | Hours | | | | Hours | |
| 2/9/2013 | | 6.5 | | 4 | | | | | | | | | | | | | | | | - | |
| TOTAL | | | | | | | | | Tota | al is t | the su | ım o | of eac | h co | lumn s | epar | ately | | | | |
| | | | | Job | | | | | | | | | | | | Job | Time | s | | | |
| Formation Na | me | | | | | | | | | | | | | | C |)ate | | Tir | ne | Tir | ne Zone |
| Formation De | pth (N | MD) To | p | | | Bott | om | | | C | Calleo | d Oi | ut | | 08 - Fe | eb - 2 | 2013 | 22 | 00 | | CST |
| Form Type | | | | | HST | | | | | | On Lo | ocat | tion | | 09 - Fe | | | 02 | | | CST |
| Job depth MD | | 56 | 530. ft | | | epth TVI | | | 5630. ft | | lob S | | | | 09 - Feb - 201: | | | | | | CST |
| Water Depth | | | | N | /k Ht | Above I | Floor | | 5. ft | | | | plete | | | Feb - 2013 | | | | _ | CST |
| Perforation De | epth (| MD) Fr | om | | | То | | | | | Depar | ted | Loc | | 09 - Fe | eb - 2 | 2013 | 11: | 00 | | CST |
| | | | ····· | | | , | 1 | | Vell Da | | | | | | | | | | | | |
| Description | | New / | Max | | ize | ID | 1 | ight | | Thr | read | | | Gra | ide | Тор | | Botto | | Тор | Bottom |
| | | Used | press | | in | in | Ibn | n/ft | | | | | | | | ft | : | MD | | TVD | TVD |
| 7 7/8" Product | tion | | psi | 9 | | 7.875 | | | | | | | | | | 160 | 12 | ft 5630 | | ft | ft |
| Hole | uon | | | | | 1.015 | | | | | | | | | | 100 | | 5050 | /. | | |
| 5 1/2" Product | tion L | Jnknow | | 5 | 5.5 | 4.95 | 15 | 5.5 | 8 | RD (| ST& | C) | | J-5 | 55 | | | 5630 |). | | |
| Casing | | n | | | | | | | | | | | | | | | | | | | |
| 8 5/8" Surface | e L | Jnknow | | 8. | 625 | 8.097 | 24 | 4. | 8 | RD (| ST& | C) | | J-5 | 55 | | | 1602 | 2. | | |
| Casing | | n | | | | | | | rd | | | | | | | | | | | | |
| | | | | | | | ales/ | Ren | tal/3rd | Part | ty (H | ES) | | | 1 | | | | | | |
| | | | | Des | scrip | tion | | | A | | | | 0 | Qty | Qty u | | Dep | th | | Supp | lier |
| SHOE,GID,5-1 | | | | and stress strength and | | | | | | | | | | 1 | EA | | | | | | |
| PLUG ASSY,3 | | | | | | | | | | | | | | 1 | EA | | | | | | |
| BAFFLE ASSY | | | | | VN | | | | | | | | | 1 | EA | | | | | | 1 |
| CENTRALIZE | | | | | | | | | | | | | | 20 | EA | | | | | | |
| CLAMP - LIMI | Γ - 5-1 | /2 - HIN | IGED - | | | | | | | | | | | 1 | EA | | | | | | |
| KIT, HALL WEI | _D-A | | | | | | | | | | | | | 1 | EA | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

| | Tools and Accessories | | | | | | | | | | | | |
|--------------|-----------------------|-----|------|-------|-------------|------|-------------------------------------|------|-------|----------------|-------|-----|------|
| Туре | Size | Qty | Make | Depth | Туре | Size | Qty | Make | Depth | Туре | Size | Qty | Make |
| Guide Shoe | 5 1/2 | 1 | HES | | Packer | | 1999 - 1999 - 19 ⁹ - 199 | | | Top Plug | 5 1/2 | 1 | HES |
| Float Shoe | | | | | Bridge Plug | | | | | Bottom Plug | | | |
| Float Collar | | | | | Retainer | | | | | SSR plug set | | | |
| Insert Float | | | | | | | | | | Plug Container | 5 1/2 | 1 | HES |

Cementing Job Summary

| Stage | Tool | | | | | | | Cen | tralizers | 5 1/2 | 20 |) Н | ES |
|------------|-------------------------------------|--------|---------------------------------|--------------|---------|-----------|------------|------------------------------|-----------------|---------------------|-------------------|------------------|-----|
| | | | | Mis | cellane | ous Mat | terials | | | | | | |
| Gelling | | | Conc | Surfactar | nt | Conc | | Acid Type | | | Qty | Conc | % |
| reatm | nent Fld | | Conc | Inhibitor | | | Conc | San | d Type | | Size | | |
| | | | | | Flui | id Data | | | | Sec. 1 | and a second | | |
| | tage/Plug | #: 1 | | | | | | | | | | | |
| Fluid # | Stage T | уре | Fluid I | Name | | Qty | Qty uom | Mixing Density Ibm/gal | Yield ft3/sk | Mix Fluid Gal/sk | l Rate bbl/min | Total Fluid G | |
| 1 | Water Pre | -Flush | | | | 10.00 | bbl | 8.33 | .0 | .0 | 6.0 | | |
| 2 | Scavenge Slurry | er | POZ PREMIUM 50/5 | 0 - SBM (123 | 302) | 25.0 | sacks | 10.5 | 4.32 | 26.94 | 6.0 | 26.9 | 4 |
| | 5 % | | CAL-SEAL 60, 50 LB | BAG (10121 | 7146) | | | | - | | | | |
| | 5 % | *** | POTASSIUM CHLOF | RIDE 5% (100 | 0001585 |) | | | | | | | |
| | 8 lbm | | KOL-SEAL, 50 LB BA | AG (1000642 | 32) | | | | | | | | |
| | 0.5 % | | HALAD(R)-322, 50 L | B (10000364 | 6) | | | | | | | | |
| | 26.941 Ga | l | FRESH WATER | | | | | | | | | | |
| 3 | Tail Slurr | у | POZ PREMIUM 50/5 | 0 - SBM (123 | 302) | 1285.0 | sacks | 13.9 | 1.56 | 6.65 | 6.0 | 6.6 | 5 |
| | 5 % | | CAL-SEAL 60, 50 LB | BAG (10121 | 7146) | | | | | | | | |
| | 5 % | | POTASSIUM CHLOF | RIDE 5% (100 | 0001585 |) | | | | | | | |
| | 8 lbm | | KOL-SEAL, 50 LB BA | | | | | | | | | | |
| | 0.5 % | | HALAD(R)-322, 50 L | B (10000364 | 6) | | | | | | | | |
| | 6.647 Gal | | FRESH WATER | | | | | | | | | , | |
| 4 | Displacer | | | | | 133.00 | bbl | 8.33 | .0 | .0 | 6.0 | | |
| | 0.8 gal/Mga | | CLA-WEB - TOTE (1 | | | | | 1 | | | | | |
| | 100 sks N Cement/Fil Mouse&Ra | II | CMT - STANDARD ((100003684) | EMENT | | 50.0 | sacks | 15.6 | 1.18 | 5.23 | | 5.2 | 3 |
| | 94 lbm | | CMT - STANDARD - | CLASS A RE | G OR T | YPE I, BU | JLK (100 | 0003684) | | | | I | |
| | 5.225 Gal | | FRESH WATER | | | | | | | | | | |
| Ca | alculated | Values | Pressu | ires | | | | ١ | Volumes | \$ | | | |
| | cement | 133 | | | Lost Re | eturns | | Cement S | | 102 | | | |
| Top O | f Cement | 247 | | | Cemen | t Returns | | Actual D | • | | Treatn | nent | |
| Frac G | Gradient | | 15 Min | | Spacer | s | 10 | Load and | Breakd | own | Total . | lob 2 | 245 |
| | | | | | | lates | | | | | | | |
| | lating | 5 | Mixing | 5 | | Displa | cement | | 5 | Avg. J | ob | 5 | |
| | nent Left In | | Amount 45.92 ft Re | | Joint | F | | | | F D' | #4.0 | | |
| Frac | Ring # 1 @ | | ID Frac ring # | 2@ | D | Frac Rir | | | D | Frac Ring | #4@ | ID | |
| Tł | he Inform | nation | Stated Herein Is | Correct | Custon | | entative S | | > | | | | |

Cementing Job Log

| Sold To #: 300466 | Ship To #: 2977 | 804 | Q | uote #: | | | Sales | Order #: 900208352 | |
|--|---------------------|----------|---------------------|---------------|-----------|-------------|---|--|--|
| Customer: ANADARKO PETRO | DLEUM CORP - | EBUS | С | ustomer | Rep: W | ATKINS, N | | | |
| Well Name: Santa Fe | | Well # | 21-3 | | • | API/ | UWI #: 1 | 5-187-21212 | |
| Field: City | (SAP): JOHNSC | N C | ounty/P | arish: St | anton | ····· | | Kansas | |
| .egal Description: Section 21 | | | 1W | | | | | ······································ | |
| .at: N 0 deg. OR N 0 deg. 0 mi | n. 0 secs. | | L | ong: E 0 | deg. OF | RE0 deg. | 0 min. 0 | secs. | |
| Contractor: Murfin | Rig/PI | atform | Name/N | | | Ŭ | | | |
| ob Purpose: Cement Producti | on Casing | | | | 9.08 | Ticket A | mount: | | |
| Vell Type: Development Well | Job Ty | /pe: Ce | ment Pro | oduction | Casing | | | | |
| Sales Person: KRANZ, ZACHA | RY Srvc S | Supervis | sor: AGL | JILERA, | FABIAN | MBU ID | Emp #: | 442123 | |
| | | | Rate | a star a star | | Press | the set of | | |
| Activity Description | Date/Time | Cht | bbl/ min | | ume bl | ps | ig | Comments | |
| | | # | | Stage | Total | Tubing | Casing | | |
| Call Out | 02/08/2013 | | | | | | | CREW CALLED OUT | |
| | 22:00 | | | | | | | FOR ANADARKO PETROLEUM, SANTE FE 21-3, 5 1/2 PRODUCTION CASING | |
| Pre-Convoy Safety Meeting | 02/09/2013 00:30 | | | | | | | DISCUSSED ALL POTENTIAL ROAD HAZARDS WITH HES | |
| Crew Leave Yard | 02/09/2013 01:00 | | | | | | | CREW CALL IN JOURNEY MANAGEMENT, IN ROUTE TO ANADARK PETROLEUM, SANTE FE 21-3 | |
| Arrive At Loc | 02/09/2013 02:30 | | | | | | | ARRIVE AT LOCATION | |
| Assessment Of Location Safety Meeting | 02/09/2013 02:45 | | | | | | | ASSESSED THE LOCATION, SPOT IN EQUIPMENT, WATER TESTED GOOD, GOT WITH CM AND WENT OVER JOB DEPTH AN NUMBERS, AT THIS TIME RIG CREW IS RUNNING CASING DOWNHOLE, HAVE GOOD RETURNS | |
| Pre-Rig Up Safety Meeting | 02/09/2013 02:50 | | | | | | | DISCUSSED ALL POTENTIAL HAZARDS AND PINCH POINTS WITH HES CREW | |
| Rig-Up Equipment | 02/09/2013 03:00 | | | | | | | RIG UP IRON AND WATER HOSES | |
| Rig-Up Completed | 02/09/2013 04:00 | | | | | | | RIG UP WENT WELL AND SAFELY | |
| Activity Description | Date/Time | Cht | Rate bbl/ min | Volu b | ume bl | Press ps | | Comments | |

Cementing Job Log

| | | # | Stage | Total | Tubing | Casing | |
|------------------------|---------------------|---|-------|-------|--------|------------|--|
| Other | 02/09/2013 04:30 | | | | | | CASING DONE RUNNING CASING, CM REQUEST TO CIRCULATE LANG ENOUGH FOR CASING CREW TO RIG DOWN BEFORE PUMPING JOB |
| Pre-Job Safety Meeting | 02/09/2013 07:00 | | | | | | DISCUSSED ALL POTENTIAL HAZARDS WHEN PRESSURE IS PRESENT WITH HES AND RIG CREW, WENT OVER JOB SCHEDULE AND NUMBERS WITH CM, AT THIS TIME THEY HAVE GOOD RETURNS |
| Start Job | 02/09/2013 07:41 | | | | | | |
| Test Lines | 02/09/2013 07:42 | | | | | | TEST LINES TO 3000 PSI |
| Pump Spacer | 02/09/2013 07:45 | | 3 10 | | | 180.0 | PUMP SPACER 10 BBL FW |
| Pump Lead Cement | 02/09/2013 07:51 | | 3 19 | | | 218.0 | PUMP LEAD CEMENT = 25 SKS = 19 BBL @ 10.5# |
| Pump Tail Cement | 02/09/2013 07:57 | | 3 79 | | | 236.0 | PUMP TAIL CEMENT = 285 SKS = 79 BBL @ 13.9# |
| Clean Lines | 02/09/2013 08:21 | | | | | | STOP CLEAN LINES AND TUB |
| Drop Top Plug | 02/09/2013 08:26 | | | | | | DROP TOP LATCH DOWN PLUG |
| Pump Displacement | 02/09/2013 08:27 | | 5 133 | | | 100.0 | PUMP DISPLACEMENT OF 133 BBL OF FW |
| Displ Reached Cmnt | 02/09/2013 08:41 | | 5 | 83 | | 205.0 | DISPLACEMENT REACH CEMENT AT 83 BBL AT 205 PSI |
| Slow Rate | 02/09/2013 08:54 | | 2 | 123 | | 650.0 | SLOW RATE TO 2 BPM TO BUMP PLUG AT 123 BBL GONE |
| Bump Plug | 02/09/2013 08:59 | | 2 | 133 | | 1200. 0 | BUMP PLUG AT 1200 PSI |
| Check Floats | 02/09/2013 09:00 | | | | | 1850. 0 | FLOATS HELD GOOD, RELEASE PRESSURE AND GOT BACK 1 BBL, THEN PUMPED 50 SKS OF NEAT CEMENT (4 BBL CMT) TO FILL RAT AND MOUSE HOLE |

Cementing Job Log

| Activity Description | Date/Time | Cht | Rate bbl/ min | Voli b | ume bl | 1 | sure sig | Comments | | |
|-----------------------------|---------------------|-----|---------------------|-----------|-----------|--------|-------------|---|--|--|
| | | # | | Stage | Total | Tubing | Casing | | | |
| End Job | 02/09/2013 09:32 | | | | | | | | | |
| Pre-Rig Down Safety Meeting | 02/09/2013 09:40 | | | | | | | DISCUSSED ALL POTENTIAL HAZARDS AND PINCH POINTS WITH HES CREW | | |
| Rig-Down Equipment | 02/09/2013 09:50 | | | | | | | RIG DOWN IRON AND WATER HOSES | | |
| Pre-Convoy Safety Meeting | 02/09/2013 10:50 | | | | | | | DISCUSSED ALL POTENTIAL ROAD HAZARDS WITH HES CREW | | |
| Rig-Down Completed | 02/09/2013 10:50 | | | | | | | RIG DOWN WENT WELL AND SAFELY | | |
| Crew Leave Location | 02/09/2013 11:00 | | | | | | | THANK YOU FOR CHOOSING HALLIBURTON, FABIAN AND CREW | | |