

4.29.19



**PHOENIX**  
TECHNOLOGY SERVICES

March 29, 2019

Solaris Water Midstream  
Attention: Regulatory Department  
907 Tradewinds Blvd.  
Midland, TX 79701

Re: Solaris Water Midstream  
Mad Cow SWD #1  
Eddy County, New Mexico  
API #30-015-45204  
Job No. 63723

Dear Regulatory Department;

Phoenix Technology Services, Inc. has filed the survey certification, surveys, and lease plat for the above referenced well with the State of New Mexico Oil Conservation Division – District 2 via certified mail. A copy of the filing is attached for your records.

| Name of Surveyor | Drain Hole Number | Surveyed Depths |        | Dates Performed |         | Type of Survey |
|------------------|-------------------|-----------------|--------|-----------------|---------|----------------|
|                  |                   | From            | To     | Start           | End     |                |
| Zach Snyder      | 1                 | 10,902          | 17,378 | 11/16/18        | 1/10/19 | MWD            |

Thank you for the opportunity to be of service. Please contact me if you have any questions or require additional information.

Best Regards,

*Brittany Carley*

Brittany Carley  
Operations Administrator

# SURVEY DATA CERTIFICATION



**PHOENIX**  
TECHNOLOGY SERVICES

Job #: 63723  
Client: Solaris Midstream  
County & State: Eddy County, NM  
Well: Mad Cow SWD #1  
API No: 30-015-45204  
Proposed Direction: 360.00

## TIE-IN DATA

| MD                   | TVD         | INC  | AZM    | N/-S  | E/-W  | DATA SOURCE |
|----------------------|-------------|------|--------|-------|-------|-------------|
| 10765.00 ft          | 10763.01 ft | 0.58 | 198.34 | 20.35 | 63.67 | GYRO        |
| Data Source Company: |             |      |        |       |       |             |

## SURVEY DATA

| First Survey Date | First Survey Depth | INC   | AZM     |
|-------------------|--------------------|-------|---------|
| 16-Nov-18         | 10,902 ft          | 0.18° | 157.72° |

| Last Survey Date | Last Survey Depth | INC   | AZM     |
|------------------|-------------------|-------|---------|
| 10-Jan-19        | 17,378 ft         | 3.36° | 250.42° |

### Survey Instrument Type

Phoenix P-360 MWD

| Projected TD Survey Date | Projected TD Survey Depth | INC   | AZM     |
|--------------------------|---------------------------|-------|---------|
| 10-Jan-19                | 17,430 ft                 | 3.36° | 250.42° |

## CORRECTION INFORMATION

|                           |      |         |
|---------------------------|------|---------|
| Magnetic Declination Used | 6.87 | degrees |
| Grid Convergence Used     | 0.27 | degrees |
| Total Correction          | 6.60 | degrees |

### Corrected to True/Grid North

Grid North

TO THE BEST OF MY KNOWLEDGE, I  
CERTIFY THIS SURVEY DATA TO BE TRUE  
AND CORRECT.

Zach Snyder  
Field Engineer Signature

1/10/2019  
Date

# **Solaris MidStream**

Eddy County, New Mexico (NAD 83)

Mad Cow SWD

#1

OH / 63723

Survey: Phoenix MWD Surveys

## **Standard Survey Report**

11 January, 2019



## Survey Report



|           |                                  |                              |                   |
|-----------|----------------------------------|------------------------------|-------------------|
| Company:  | Solaris MidStream                | Local Co-ordinate Reference: | Well #1           |
| Project:  | Eddy County, New Mexico (NAD 83) | TVD Reference:               | RKB @ 3567.00usft |
| Site:     | Mad Cow SWD                      | MD Reference:                | RKB @ 3567.00usft |
| Well:     | #1                               | North Reference:             | Grid              |
| Wellbore: | OH / 63723                       | Survey Calculation Method:   | Minimum Curvature |
| Design:   | Surveys (Precision 312)          | Database:                    | USA Compass       |

|             |                                  |               |                |
|-------------|----------------------------------|---------------|----------------|
| Project:    | Eddy County, New Mexico (NAD 83) |               |                |
| Map System: | US State Plane 1983              | System Datum: | Mean Sea Level |
| Geo Datum:  | North American Datum 1983        |               |                |
| Map Zone:   | New Mexico Eastern Zone          |               |                |

|                       |             |              |                 |                   |                     |
|-----------------------|-------------|--------------|-----------------|-------------------|---------------------|
| Site:                 | Mad Cow SWD |              |                 |                   |                     |
| Site Position:        |             | Northing:    | 448,449.69 usft | Latitude:         | 32° 13' 54.69373 N  |
| From:                 | Map         | Easting:     | 697,178.20 usft | Longitude:        | 103° 49' 45.59676 W |
| Position Uncertainty: | 0.00 usft   | Slot Radius: | 13-3/16 "       | Grid Convergence: | 0.27 °              |

|                      |           |                     |           |                 |               |                     |
|----------------------|-----------|---------------------|-----------|-----------------|---------------|---------------------|
| Well:                | #1        |                     |           |                 |               |                     |
| Well Position        | +N/-S     | 0.00 usft           | Northing: | 448,449.69 usft | Latitude:     | 32° 13' 54.69373 N  |
|                      | +E/-W     | 0.00 usft           | Easting:  | 697,178.20 usft | Longitude:    | 103° 49' 45.59676 W |
| Position Uncertainty | 0.00 usft | Wellhead Elevation: | usft      | Ground Level:   | 3,535.00 usft |                     |

|           |            |             |                 |               |                     |
|-----------|------------|-------------|-----------------|---------------|---------------------|
| Wellbore: | OH / 63723 |             |                 |               |                     |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|           | MVHD       | 10/15/2018  | 6.87            | 59.95         | 47,988.89942078     |

|                   |                         |              |              |               |      |
|-------------------|-------------------------|--------------|--------------|---------------|------|
| Design:           | Surveys (Precision 312) |              |              |               |      |
| Audit Notes:      |                         |              |              |               |      |
| Version:          | 1.0                     | Phase:       | ACTUAL       | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |      |
|                   | 0.00                    | 0.00         | 0.00         | 0.00          |      |

|                |                |                                        |           |                               |  |
|----------------|----------------|----------------------------------------|-----------|-------------------------------|--|
| Survey Program | Date 1/11/2019 |                                        |           |                               |  |
| From (usft)    | To (usft)      | Survey (Wellbore)                      | Tool Name | Description                   |  |
| 779.00         | 8,914.00       | Phoenix MWD Surveys (Pre-Gyro) (OH / 6 | MWD+HDGM  | OWSG Rev.2 MWD + HDGM         |  |
| 9,100.00       | 10,765.00      | Phoenix Gyro Surveys (OH / 63723)      | SPT_GTD   | Continuous north-seeking gyro |  |
| 10,902.00      | 17,430.00      | Phoenix MWD Surveys (OH / 63723)       | MWD+HDGM  | OWSG Rev.2 MWD + HDGM         |  |

| Survey                   |                 |             |                       |              |              |                         |                         |                        |                       |
|--------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft)    | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 10,765.00                | 0.58            | 198.34      | 10,763.01             | 20.35        | 63.67        | 20.35                   | 0.00                    | 0.00                   | 0.00                  |
| Tie In                   |                 |             |                       |              |              |                         |                         |                        |                       |
| 10,902.00                | 0.18            | 157.72      | 10,900.01             | 19.49        | 63.53        | 19.49                   | 0.33                    | -0.29                  | -29.65                |
| First Phoenix MWD Survey |                 |             |                       |              |              |                         |                         |                        |                       |
| 11,091.00                | 0.35            | 206.44      | 11,089.01             | 18.70        | 63.39        | 18.70                   | 0.14                    | 0.09                   | 25.78                 |
| 11,281.00                | 0.35            | 201.78      | 11,279.01             | 17.64        | 62.91        | 17.64                   | 0.01                    | 0.00                   | -2.45                 |
| 11,473.00                | 0.42            | 196.30      | 11,471.00             | 16.42        | 62.50        | 16.42                   | 0.04                    | 0.04                   | -2.85                 |
| 11,662.00                | 0.55            | 238.72      | 11,659.99             | 15.28        | 61.53        | 15.28                   | 0.20                    | 0.07                   | 22.44                 |

## Survey Report



Company: Solaris MidStream  
 Project: Eddy County, New Mexico (NAD 83)  
 Site: Mad Cow SWD  
 Well: #1  
 Wellbore: OH / 63723  
 Design: Surveys (Precision 312)

Local Co-ordinate Reference: Well #1  
 TVD Reference: RKB @ 3567.00usft  
 MD Reference: RKB @ 3567.00usft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature  
 Database: USA Compass

## Survey

| Measured Depth (usft)    | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|--------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 11,852.00                | 1.05            | 255.45      | 11,849.98             | 14.37        | 59.06        | 14.37                   | 0.29                    | 0.26                   | 8.81                  |
| 12,042.00                | 0.88            | 244.14      | 12,039.95             | 13.30        | 56.07        | 13.30                   | 0.13                    | -0.09                  | -5.95                 |
| 12,232.00                | 0.83            | 185.66      | 12,229.93             | 11.29        | 54.62        | 11.29                   | 0.44                    | -0.03                  | -30.78                |
| 12,420.00                | 1.49            | 167.48      | 12,417.89             | 7.55         | 55.01        | 7.55                    | 0.40                    | 0.35                   | -9.67                 |
| 12,608.00                | 1.66            | 175.94      | 12,605.82             | 2.45         | 55.73        | 2.45                    | 0.15                    | 0.09                   | 4.50                  |
| 12,795.00                | 1.73            | 184.99      | 12,792.74             | -3.06        | 55.68        | -3.06                   | 0.15                    | 0.04                   | 4.84                  |
| 12,982.00                | 1.55            | 177.86      | 12,979.66             | -8.40        | 55.53        | -8.40                   | 0.15                    | -0.10                  | -3.81                 |
| 13,173.00                | 1.43            | 183.61      | 13,170.60             | -13.36       | 55.48        | -13.36                  | 0.10                    | -0.06                  | 3.01                  |
| 13,362.00                | 1.41            | 189.01      | 13,359.54             | -18.01       | 54.96        | -18.01                  | 0.07                    | -0.01                  | 2.86                  |
| 13,552.00                | 1.34            | 202.46      | 13,549.49             | -22.38       | 53.75        | -22.38                  | 0.17                    | -0.04                  | 7.08                  |
| 13,741.00                | 1.21            | 216.21      | 13,738.44             | -26.03       | 51.73        | -26.03                  | 0.18                    | -0.07                  | 7.28                  |
| 13,928.00                | 1.17            | 223.44      | 13,925.40             | -29.01       | 49.25        | -29.01                  | 0.08                    | -0.02                  | 3.87                  |
| 14,117.00                | 1.22            | 223.23      | 14,114.36             | -31.87       | 46.54        | -31.87                  | 0.03                    | 0.03                   | -0.11                 |
| 14,306.00                | 1.32            | 231.79      | 14,303.31             | -34.69       | 43.45        | -34.69                  | 0.11                    | 0.05                   | 4.53                  |
| 14,495.00                | 1.33            | 237.95      | 14,492.26             | -37.20       | 39.88        | -37.20                  | 0.08                    | 0.01                   | 3.26                  |
| 14,590.00                | 1.47            | 237.58      | 14,587.23             | -38.44       | 37.92        | -38.44                  | 0.15                    | 0.15                   | -0.39                 |
| 14,698.00                | 2.22            | 307.72      | 14,695.19             | -37.90       | 35.10        | -37.90                  | 2.04                    | 0.69                   | 64.94                 |
| 14,887.00                | 2.46            | 296.73      | 14,884.03             | -33.84       | 28.58        | -33.84                  | 0.27                    | 0.13                   | -5.81                 |
| 15,077.00                | 2.64            | 293.89      | 15,073.84             | -30.23       | 20.93        | -30.23                  | 0.12                    | 0.09                   | -1.49                 |
| 15,266.00                | 2.47            | 284.00      | 15,262.66             | -27.48       | 13.00        | -27.48                  | 0.25                    | -0.09                  | -5.23                 |
| 15,456.00                | 2.10            | 284.55      | 15,452.51             | -25.62       | 5.66         | -25.62                  | 0.20                    | -0.19                  | 0.29                  |
| 15,552.00                | 1.99            | 273.24      | 15,548.45             | -25.08       | 2.29         | -25.08                  | 0.43                    | -0.11                  | -11.78                |
| 15,659.00                | 2.19            | 264.29      | 15,655.37             | -25.18       | -1.59        | -25.18                  | 0.36                    | 0.19                   | -8.36                 |
| 15,847.00                | 2.59            | 262.68      | 15,843.21             | -26.08       | -9.38        | -26.08                  | 0.22                    | 0.21                   | -0.86                 |
| 16,037.00                | 2.78            | 269.38      | 16,033.00             | -26.67       | -18.25       | -26.67                  | 0.19                    | 0.10                   | 3.53                  |
| 16,228.00                | 3.42            | 265.90      | 16,223.72             | -27.13       | -28.56       | -27.13                  | 0.35                    | 0.34                   | -1.82                 |
| 16,418.00                | 3.44            | 266.47      | 16,413.38             | -27.89       | -39.90       | -27.89                  | 0.02                    | 0.01                   | 0.30                  |
| 16,569.00                | 3.76            | 272.50      | 16,564.08             | -27.95       | -49.37       | -27.95                  | 0.33                    | 0.21                   | 3.99                  |
| 16,689.00                | 3.61            | 263.22      | 16,683.84             | -28.22       | -57.05       | -28.22                  | 0.51                    | -0.13                  | -7.73                 |
| 16,878.00                | 3.61            | 267.08      | 16,872.46             | -29.23       | -68.90       | -29.23                  | 0.13                    | 0.00                   | 2.04                  |
| 16,972.00                | 3.74            | 264.48      | 16,966.27             | -29.68       | -74.91       | -29.68                  | 0.22                    | 0.14                   | -2.77                 |
| 17,162.00                | 3.75            | 258.54      | 17,155.86             | -31.51       | -87.17       | -31.51                  | 0.20                    | 0.01                   | -3.13                 |
| 17,332.00                | 3.17            | 250.34      | 17,325.55             | -34.19       | -97.04       | -34.19                  | 0.45                    | -0.34                  | -4.82                 |
| 17,378.00                | 3.36            | 250.42      | 17,371.48             | -35.07       | -99.51       | -35.07                  | 0.41                    | 0.41                   | 0.17                  |
| Final Phoenix MWD Survey |                 |             |                       |              |              |                         |                         |                        |                       |
| 17,430.00                | 3.36            | 250.42      | 17,423.39             | -36.09       | -102.38      | -36.09                  | 0.00                    | 0.00                   | 0.00                  |
| Projection to TD         |                 |             |                       |              |              |                         |                         |                        |                       |

# Survey Report



|                  |                                  |                                     |                   |
|------------------|----------------------------------|-------------------------------------|-------------------|
| <b>Company:</b>  | Solaris MidStream                | <b>Local Co-ordinate Reference:</b> | Well #1           |
| <b>Project:</b>  | Eddy County, New Mexico (NAD 83) | <b>TVD Reference:</b>               | RKB @ 3567.00usft |
| <b>Site:</b>     | Mad Cow SWD                      | <b>MD Reference:</b>                | RKB @ 3567.00usft |
| <b>Well:</b>     | #1                               | <b>North Reference:</b>             | Grid              |
| <b>Wellbore:</b> | OH / 63723                       | <b>Survey Calculation Method:</b>   | Minimum Curvature |
| <b>Design:</b>   | Surveys (Precision 312)          | <b>Database:</b>                    | USA Compass       |

| Survey Annotations          |                             |                   |                 |                          |
|-----------------------------|-----------------------------|-------------------|-----------------|--------------------------|
| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                 | Comment                  |
|                             |                             | +N/-S<br>(usft)   | +E/-W<br>(usft) |                          |
| 10,765.00                   | 10,763.01                   | 20.35             | 63.67           | Tie In                   |
| 10,902.00                   | 10,900.01                   | 19.49             | 63.53           | First Phoenix MWD Survey |
| 17,378.00                   | 17,371.48                   | -35.07            | -99.51          | Final Phoenix MWD Survey |
| 17,430.00                   | 17,423.39                   | -36.09            | -102.38         | Projection to TD         |

DISTRICT I  
1433 N. French Dr., Santa Fe, NM 87505  
Phone: (505) 325-4151 Fax: (505) 325-4729

DISTRICT II  
811 S. First St., Santa Fe, NM 87501  
Phone: (505) 748-1213 Fax: (505) 748-4721

DISTRICT III  
1600 Rio Pecos Rd., Santa Fe, NM 87505  
Phone: (505) 325-4151 Fax: (505) 325-4729

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3400 Fax: (505) 476-3401

State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

RECEIVED

AUG 17 2018

Form C-102

Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                   |                                                      |                                              |
|-----------------------------------|------------------------------------------------------|----------------------------------------------|
| API Number<br><b>30-015-45204</b> | Pool Code<br><b>97869</b>                            | Pool Name<br><b>SWD; DEVONIAN - SILURIAN</b> |
| Property Code<br><b>322266</b>    | Property Name<br><b>MAD COW SWD</b>                  | Well Number<br><b>#1</b>                     |
| GRID No.<br><b>371643</b>         | Operator Name<br><b>SOLARIS WATER MIDSTREAM, LLC</b> | Elevation<br><b>3535'</b>                    |

Surface Location

| UL or lot no. | Section   | Township   | Range      | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County      |
|---------------|-----------|------------|------------|---------|---------------|------------------|---------------|----------------|-------------|
| <b>1</b>      | <b>12</b> | <b>24S</b> | <b>30E</b> |         | <b>2441'</b>  | <b>SOUTH</b>     | <b>1135'</b>  | <b>EAST</b>    | <b>EDDY</b> |

Bottom Hole Location If Different From Surface

| UL or lot no.                  | Section | Township        | Range | Lot Idn           | Feet from the | North/South line | Feet from the | East/West line | County |
|--------------------------------|---------|-----------------|-------|-------------------|---------------|------------------|---------------|----------------|--------|
| -                              | -       | -               | -     | -                 | -             | -                | -             | -              | -      |
| Dedicated Acres<br><b>3.67</b> |         | Joint or Infill |       | Consolidated Code |               | Order No.        |               |                |        |

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

|      |                                                         |                                                         |      |
|------|---------------------------------------------------------|---------------------------------------------------------|------|
| 21   | NW CORNER<br>LAT.: 32.2396600°N<br>LON.: -103.8428845°W | NE CORNER<br>LAT.: 32.2396728°N<br>LON.: -103.8266552°W | 16   |
| 11   |                                                         |                                                         | 7    |
|      |                                                         |                                                         |      |
|      |                                                         |                                                         |      |
|      |                                                         |                                                         |      |
|      |                                                         |                                                         |      |
|      |                                                         |                                                         |      |
|      |                                                         |                                                         |      |
|      |                                                         |                                                         |      |
|      |                                                         |                                                         |      |
|      |                                                         |                                                         |      |
| 11   |                                                         |                                                         | 7    |
| 1413 | SW CORNER<br>LAT.: 32.2251689°N<br>LON.: -103.8428122°W | SE CORNER<br>LAT.: 32.2251429°N<br>LON.: -103.8256682°W | 1318 |

SHL MAD COW SWD #1  
GR. ELEV. 3636'  
NMSP-E (NAD 83)  
N(Y) = 448449.7'  
E(X) = 687178.2'  
LAT. = 32.2318593° N  
LON. = 103.8293325° W  
NMSP-E (NAD 27)  
N(Y) = 448380.7'  
E(X) = 655994.2'  
LAT. = 32.2317362° N  
LON. = 103.8288475° W

1135'

2441'

**OPERATOR CERTIFICATION**

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

*Bonnie Atwater* 7.31.18  
Signature Date

*Bonnie Atwater*  
Print Name

*bonnie.atwater@*  
E-mail Address

*solarismidstream.com*  
E-mail Address

**SURVEYORS CERTIFICATION**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

July 20, 2018  
Date of Survey

*James E. Tompkins*  
Signature and Seal of Professional Surveyor

**JAMES E. TOMPKINS**  
NEW MEXICO  
14729  
REGISTERED PROFESSIONAL SURVEYOR

*James E. Tompkins*  
John No.: WTC52626 Draft: M.Y.  
JAMES E. TOMPKINS 14729  
Certificate Number

PLAT: C:\USERS\HERNANDEZ\DESKTOP\FINITE\TEMPLATE\WELL TEMP LAYOUT TAB MAPS

Rev 8-24-18