Form 3160-3 (March 2012)		FORM OMB N Expires C	FORM APPROVED OMB No. 1004-0137 Expires October 31, 2014	
UNITED STATES DEPARTMENT OF THE INTE BUREAU OF LAND MANAGE	5. Lease Serial No. NMLC0062300			
APPLICATION FOR PERMIT TO DRILL OR REENTER		6. If Indian, Allotee	or Tribe Name	
la. Type of work: DRILL REENTER		7 If Unit or CA Agree	ement, Name and No.	
Ib. Type of Well: 🖌 Oil Well 🔲 Gas Well 💭 Other	Single Zone Multiple	Zone BIG SINKS DRAW	Well No. COM 25-24 FED 331H 3/7584	
2. Name of Operator DEVON ENERGY PRODUCTION COMPAN	WYLP 6131	9. APŤWĖIŁNO. 300	15.45098	
3a. Address 333 West Sheridan Avenue Oklahoma City Ok (40)	Phone No. (include area code) / 15)552-6571	10 Field and Pool, or JENNINGS / BONI	Exploratory E SPRING	
4. Location of Well (Report location clearly and in accordance with any State At surface SWNW / 2484 FNL / 925 FWL / LAT 32.1017025 /	e requirements.*) / LONG -103.7372077	11. Sec., T. R. M. or B SEC 25 / T25S / R	lk. and Survey or Area 31E / NMP	
 14. Distance in miles and direction from nearest town or post office* 	12213657 LONG-103.73908	12. County or Parish EDDY	13. State NM	
15. Distance from proposed* 16. location to nearest 330 feet property or lease line, ft. 243 (Also to nearest drig. unit line, if any) 16.	No of acres in lease 1 79.82	7 Spacing Unit dedicated to this 240	vell	
18. Distance from proposed location* to nearest well, drilling, completed, 425 feet applied for, on this lease, fl.	Proposed Depth 24 268 feet / 18314 feet	0. BLM/BIA Bond No. on file FED: CO1104		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. 3337 feet 06.	Approximate date work will start* 01/2018	23. Estimated duratio 30 days	n	
24	4. Attachments			
The following, completed in accordance with the requirements of Onshore Oil	and Gas Order No.1, must be attac	ched to this form:		
1. Well plat certified by a registered surveyor. 4. Bond to cover the operations unless control litern 20 above). 2. A Drilling Plan. 4. Bond to cover the operations unless control litern 20 above).			existing bond on file (see	
 A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). Such other site specific in BLM. 		ion ecific information and/or plans as	may be required by the	
25. Signature (Electronic-Submission)	Name (Printed/Typed) Erin Workman / Ph: (405)5	552-7970	Date 11/30/2017	
Title Regulatory Compliance Professional				
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)23	4-5959	Date 07/06/2018	
Title Supervisor Multiple Resources	Office CARLSBAD			
Application approval does not warrant or certify that the applicant holds lege conduct operations thereon.) Conditions of approval, if any, are attached.	al or equitable title to those rights	in the subject lease which would a	entitle the applicant to	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime States any false, fictitious or fraudulent statements or representations as to any	for any person knowingly and wil y matter within its jurisdiction.	Ifully to make to any department	or agency of the United	
(Continued on page 2)			CONSERVATION ESIA DISTRICT	



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INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new-reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

The Privacy Act of 1974 and regulation in 43 CFR 2:48(d) provide that you be furnished the following information in connection with information required by this application.

NOTICES

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts. ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to-civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

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Additional Operator Remarks

Location of Well

 SHL: SWNW / 2484 FNL / 925 FWL / TWSP: 25S / RANGE: 31E / SECTION: 25 / LAT: 32.1017025 / LONG: -103.7372077 (TVD: 0)feet, MD: 0 feet) PPP: SWSW / 0 FSL / 330 FWL / TWSP: 25S / RANGE: 31E / SECTION: 24 / LAT: 32.115782 / LONG: -103.7390858 (TVD: U268 feet, MD: 16003 feet) PPP: SWNW / 1752 FNL / 330 FWL / TWSP: 25S / RANGE: 31E / SECTION: 25 / LAT: 32.1017025 / LONG: -103.7392077 (TVD: 11268 feet, MD: 11616 feet) BHL: NWNW / 330 FNL / 330 FWL / TWSP: 25S / RANGE: 31E / SECTION: 24 / LAT: 32.1221365 / LONG: -103.7390657 (TVD: 11268 feet, MD: 18314 feet)

BLM Point of Contact

Name: Sipra Dahal Title: Legal Instruments Examiner Phone: 5752345983 Email: sdahal@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Prod Co
LEASE NO.:	LC062300
WELL NAME & NO.:	331H – Big Sinks Draw 25-24 Fed Com
SURFACE HOLE FOOTAGE:	2484'/N & 925/W
BOTTOM HOLE FOOTAGE	330'/N & 330'/W, sec.24
LOCATION:	Section 25, T. 25 S., R.319 E.
COUNTY:	Eddy County, New Mexico

Potash	€ None	C Secretary	CR-111-P
Cave/Karst Potential	C Low	C Medium	
Variance	C None	Flex Hose	Other
Wellhead	C Conventional	Multibowl	
Other	□4 String Area	Capitan Reef	□ WIPP

A. Hydrogen Sulfide

 Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

- 1. The **13 3/8** inch surface casing shall be set at approximately **958** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of <u>8</u> <u>hours</u> or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength,

whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

- 2. The minimum required fill of cement behind the 9 5/8 inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above. Excess calculates to 23% additional cement might be required.
- 3. The minimum required fill of cement behind the 5 1/2 inch production casing is:
 - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. Excess calculates to 22% - additional cement might be required.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

2.

Option 1:

i. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi.

Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi.

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.

- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT(S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. <u>When the Communitization Agreement number is known, it shall also be</u> on the sign.

Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

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GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)
 - Chaves and Roosevelt Counties
 Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
 During office hours call (575) 627-0272.
 After office hours call (575)
 - Eddy County Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822
 - Lea County Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612
- 1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
- 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

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3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

- Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
- <u>Wait on cement (WOC) for Potash Areas:</u> After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least <u>24</u> hours. WOC time will be recorded in the driller's log.
- Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.
- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
- 7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
- 3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the

plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

PECOS DISTRICT SURFACE USE CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Prod Co
LEASE NO.:	LC062300
WELL NAME & NO.:	331H – Big Sinks Draw 25-24 Fed
SURFACE HOLE FOOTAGE:	2484'/N & 925/W
BOTTOM HOLE FOOTAGE	330'/N & 330'/W, sec.24
LOCATION:	Section 25, T. 25 S., R.319 E.
COUNTY:	Eddy County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

_ General Provisions
Permit Expiration
Archaeology, Paleontology, and Historical Sites
Noxious Weeds
🛛 Special Requirements
Lesser Prairie-Chicken Timing Stipulations
Ground-level Abandoned Well Marker
Range
Watershed
Construction
Notification
Topsoil
Closed Loop System
Federal Mineral Material Pits
Well Pads
Roads
Road Section Diagram
Production (Post Drilling)
Well Structures & Facilities
Pipelines
Electric Lines
Interim Reclamation
Final Abandonment & Reclamation

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

In May 2008, the Pecos District Special Status Species Resource Management Plan Amendment (RMPA) was approved and is being implemented. In addition to the standard practices that minimize impacts, as listed above, the following COA will apply:

- Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken, to minimize noise associated impacts which could disrupt breeding and nesting activities.
- Upon abandonment, a low profile abandoned well marker will be installed to prevent raptor perching.

Wildlife Escape Ramps

Devon would need to construct and maintain escape ramps according to the following criteria:

- Earthen escape ramps would be required to be constructed to sufficiently support livestock at no more than a 30-degree slope and spaced no more than 500 feet apart.
- If trench is left open under an 8-hour time period, it would not be required to have an escape ramp; however, before the trench is backfilled, Devon would inspect the trench for wildlife and remove any species that are trapped at a distance of at least 100 yards away from the trench.

Raptor Nest Mitigation

- A BLM Wildlife Biologist must be contacted by the operator prior to construction activities to determine if the raptor nest is active.
- Determination to deconstruct inactive nest prior to pad construction will be made by BLM Wildlife Biologist.
- Raptor nests on special, natural habitat features, such as trees, large brush, cliff faces and escarpments, will be protected by not allowing surface disturbance within up to 200 meters of nests or by delaying activity for up to 90 days, or a combination of both. Exceptions to this requirement for raptor nests will be considered if the nests expected to be disturbed are inactive, the proposed activity is of short duration (e.g. habitat enhancement projects, fences, pipelines), and will not result in continuing activity in proximity to the nest.
- Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Temporary Fencing Requirement

For the proposed Big Sinks 25 CTB 3 location, the BLM would require temporary fencing be installed before construction begins. This fencing would stay in place and be maintained throughout construction activities to protect nearby dune land habitat from harm.

Power Lines

Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all power line structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. The holder without liability or expense shall make such modifications and/or additions to the United States.

Watershed/Water Quality:

For all the proposed actions; the entire perimeter of the well pad and CTB sites will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery:

- Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.
- Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the
 effects of catastrophic line failures used in production or drilling.

Temporary Fence Crossing Requirement

Where entry is granted across a fence line, the fence must be braced and tied off on both sides of the passageway with H-braces prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Cattle Guard Requirement

Where entry is granted across a fence line for an access road, the fence must be braced and tied off on both sides of the passageway with H-braces prior to cutting. Once the work is completed, the fence will be restored to its prior condition with an appropriately sized cattle guard sufficient to carry out the project. Any new or existing cattle guards on the access route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations. Once the road is abandoned, the fence would be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Livestock Watering Requirement

Devon, in an agreement with the grazing allotment holder, would relocate a water pipeline affected by several proposed actions. Devon would also encase the water pipeline along its length where it would travel under access roads. See **Error! Reference source not found.** above.

Devon must contact the allotment holder prior to construction to identify the location of the pipelines. Devon must take measures to protect the pipelines from compression or other damages. If the pipelines are damaged or compromised in any way near the proposed project as a result of oil and gas activity, Devon is responsible for repairing the pipelines immediately. Devon must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

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During construction, Devon shall minimize disturbance to existing fences, water lines, troughs, windmills, and other improvements on public lands. Devon is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the grazing permittee/allottee prior to disturbing any range improvement projects. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

Temporary Fencing Requirement

For the proposed Big Sinks 25 CTB 3 location, the BLM would require temporary fencing be installed before construction begins. This fencing would stay in place and be maintained throughout construction activities to protect nearby dune land habitat from harm.

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VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

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Exclosure Fencing

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: 400' + 100' = 200' lead-off ditch interval 4%

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

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VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, <u>Shale Green</u> from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, <u>et seq</u>. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, <u>et seq</u>.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of $\underline{36}$ inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be $\underline{30}$ feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)
- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed <u>30</u> feet. The trench and bladed area are included in this area. (Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.)
- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (Compressing can be caused by vehicle tires, placement of equipment, etc.)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6_{--} inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

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12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

() seed mixture 1	() seed mixture 3
() seed mixture 2	() seed mixture 4
(X) seed mixture 2/LPC	() Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – Shale Green, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-ofway and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. <u>Escape Ramps</u> - The operator will construct and maintain pipeline/utility trenches that are not otherwise fenced, screened, or netted to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or

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other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

- a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
- b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.
- 19. Special Stipulations:

Lesser Prairie-Chicken

Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the application (Grant, Sundry Notice, APD) and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and

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especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
- b. Activities of other parties including, but not limited to:
 - (1) Land clearing.
 - (2) Earth-disturbing and earth-moving work.
 - (3) Blasting.
 - (4) Vandalism and sabotage.
- c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of

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the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-ofway width of ______ feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline must be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of <u>24</u> inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – Shale Green, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State

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Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

17. Surface pipelines must be less than or equal to 4 inches and a working pressure below 125 psi.

- 18. Special Stipulations:
 - a. <u>Lesser Prairie-Chicken:</u> Oil and gas activities will not be allowed in lesser prairiechicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted.
 - b. This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous

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Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 <u>et seq</u>. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006. The

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holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this rightof-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

• For reclamation remove poles, lines, transformer, etc. and dispose of properly.

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• Fill in any holes from the poles removed.

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

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All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be <u>no</u> primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	<u>lb/acre</u>
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	11bs/A

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Erin Workman

Signed on: 11/30/2017

Title: Regulatory Compliance Professional

Street Address: 333 West Sheridan Avenue

State: OK

State: NM

City: Oklahoma City

Zip: 73102

Phone: (405)552-7970

Email address: Erin.Workman@dvn.com

Field Representative

Representative Name: Ray Vaz

Street Address: 6488 Seven Rivers Hwy

City: Artesia

Zip: 88210

Phone: (575)748-1871

Email address: ray.vaz@dvn.com
FAFMSS

U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

Application Data Report

APD ID: 10400024181	Submission Date: 11/30/2017	Highlighted data
Operator Name: DEVON ENERGY PRODUCTION COMPA	NY LP	reflects the most recent changes
Well Name: BIG SINKS DRAW 25-24 FED COM	Well Number: 331H	Show Final Text
Well Type: OIL WELL	Well Work Type: Drill	

Section 1 - General

APD ID: 10400024181 BLM Office: CARLSBAD

Federal/Indian APD: FED

Lease number: NMLC0062300

Surface access agreement in place?

Agreement in place? NO

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO

Operator letter of designation:

Submission Date: 11/30/2017

Title: Regulatory Compliance Professional

Professional Is the first lease penetrated for production Federal or Indian? FED

APD Operator: DEVON ENERGY PRODUCTION COMPANY LP

Lease Acres: 2479.82 Allotted?

Tie to previous NOS?

User: Erin Workman

ed? Reservation:

Federal or Indian agreement:

Operator Info

Operator into							
Operator Organization Name: DEVON ENE	RGY PRODUCTION COMPANY LP						
Operator Address: 333 West Sheridan Aven	ue	70400					
Operator PO Box:	Ζιρ .	13102					
Operator City: Oklahoma City State: 0	ок						
Operator Phone: (405)552-6571							
Operator Internet Address:							
Section 2 - Well Informat	ion						
Well in Master Development Plan? NEW	Mater Development Plan	name: Cotton Draw 2 MDP					
Well in Master SUPO? NO	Master SUPO name:						
Well in Master Drilling Plan? NO	Master Drilling Plan nam	ne:					
Well Name: BIG SINKS DRAW 25-24 FED CO	OM Well Number: 331H	Well API Number:					
Field/Pool or Exploratory? Field and Pool	Field Name: JENNINGS	Pool Name: BONE SPRING					

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Describe other minerals:					
Is the proposed well in a Helium produ	uction area? N	Use Existing Well Pad?	NO	New surface disturbance?	
Type of Well Pad: MULTIPLE WELL		Multiple Well Pad Name	e: BIG	Number: 1	
Well Class: HORIZONTAL		SINKS DRAW CTB Number of Legs: 1			
Well Work Type: Drill					
Well Type: OIL WELL					
Describe Well Type:					
Well sub-Type: APPRAISAL					
Describe sub-type:					
Distance to town:	Distance to ne	arest well: 425 FT	Distan	ce to lease line: 330 FT	
Reservoir well spacing assigned acres	s Measurement:	240 Acres			
Well plat: BSD_25_24_Fed_Com_331H_C_102_sigr		ned_20171107104612.pdf			
Well work start Date: 06/01/2018	Duration: 30 DAYS				

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Survey number: 5659

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	DVT
SHL	248	FNL	925	FWL	25S	31E	25	Aliquot	32.10170	-	EDD	NEW	NEW	F	NMLC0	333	0	0
Leg #1	4							SWN W	25	103.7372 077	Y	MEXI CO	MEXI CO		062300	7		
KOP Leg #1	232 4	FNL	330	FWL	25S	31E	25	Aliquot SWN W	32.10170 25	- 103.7372 077	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 062300	- 735 8	107 16	106 95
PPP Leg #1	175 2	FNL	330	FWL	25S	31E	25	Aliquot SWN W	32.10170 25	- 103.7372 077	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 062300	- 793 1	116 16	112 68

Vertical Datum: NAVD88

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BIG SINKS DRAW 25-24 FED COM

Well Number: 331H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	QW	TVD
PPP Leg #1	0	FSL	330	FWL	25S	31E	24	Aliquot SWS W	32.11578 2	- 103.7390 853	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 125634	- 793 1	160 03	112 68
EXIT Leg #1	330	FNL	330	FWL	25S	31E	24	Aliquot NWN W	32.12213 65	- 103.7390 657	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 062300	- 793 1	183 14	112 68
BHL Leg #1	330	FNL	330	FWL	25S	31E	24	Aliquot NWN W	32.12213 65	- 103.7390 657	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 062300	- 793 1	183 14	112 68



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT



APD ID: 10400024181Submission Date: 11/30/2017Highlighted data
reflects the most
recent changesOperator Name: DEVON ENERGY PRODUCTION COMPANY LPreflects the most
recent changesWell Name: BIG SINKS DRAW 25-24 FED COMWell Number: 331HShow Final TextWell Type: OIL WELLWell Work Type: Drill

Section 1 - Geologic Formations

Formation			True Vertical	Measured			Producing
ID	Formation Name	Elevation	Depth	Depth	Lithologies	Mineral Resources	Formation
1	UNKNOWN	3337	0	0	ALLUVIUM	NONE	No
2	RUSTLER	2404	933	933	SALT	NONE	No
3	SALADO	2084	1253	1253	SALT	NONE	No
4	BASE OF SALT	-966	4303	4303	SALT	NONE	No
5	DELAWARE	-1001	4338	4338	SANDSTONE	NATURAL GAS,OIL	No
6	BELL CANYON	-1033	4370	4370	SANDSTONE	NONE	No
7	CHERRY CANYON	-1993	5330	5330	SANDSTONE	NONE	No
8	BRUSHY CANYON	-3383	6720	6720		NONE	No
9	BONE SPRING 1ST	-5027	8364	8364	LIMESTONE	NATURAL GAS,OIL	No
10	BONE SPRING 3RD	-7931	11268	11268	SANDSTONE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M

Rating Depth: 10475

Equipment: BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per Onshore Oil & Gas Order #2 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested.

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP stack to the choke manifold. See attached for specs for hydrostatic test chart.

Testing Procedure: A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BIG SINKS DRAW 25-24 FED COM

Well Number: 331H

Choke Diagram Attachment:

BSD_25_24_Fed_Com_331H_5M_BOPE__CK_20180313072429.pdf

BOP Diagram Attachment:

BSD_25_24_Fed_Com_331H_5M_BOPE__CK_20180313072450.pdf

Pressure Rating (PSI): 3M

Rating Depth: 4350

Equipment: BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per Onshore Oil & Gas Order #2 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested.

Requesting Variance? YES

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Testing Procedure: A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Choke Diagram Attachment:

BSD_25_24_Fed_Com_331H_5M_BOPE__CK_20180313072519.pdf

BOP Diagram Attachment:

BSD_25_24_Fed_Com_331H_5M_BOPE__CK_20180313072542.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	958	0	958			958	H-40	48	STC	1.74	2.45	BUOY	4.13	BUOY	4.13
2		12.2 5	9.625	NEW	API	N	0	4403	0	4403			4403	J-55	40	LTC	1.19	1.42	BUOY	3.98	BUOY	3.98
3	PRODUCTI ON	8.75	5.5	NEW	API	N	0	18313	0	11268	-		18313	P- 110	17	BUTT	1.5	1.3	BUOY	3.21	BUOY	3.21

Casing Attachments

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP Well Name: BIG SINKS DRAW 25-24 FED COM

Well Number: 331H

Casing Attachments

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BSD_25_24_Fed_Com_331H_SurfCsg_Ass_20171103055847.pdf

String Type: INTERMEDIATE Casing ID: 2

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BSD_25_24_Fed_Com_331H_int_Csg_Ass_20171103055859.pdf

Casing ID: 3 String Type: PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BSD_25_24_Fed_Com_331H_ProdCasing_Ass_20171103060556.pdf

Section 4 - Cement

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BIG SINKS DRAW 25-24 FED COM

Well Number: 331H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	958	745	1.34	14.8	1000	50	С	1% Calcium Chloride

INTERMEDIATE	Lead	0	3522	775	1.85	12.9	1432	30	C	Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sks Poly-E-Flake
INTERMEDIATE	Tail	3527	4403	270	1.33	14.8	359	30	C	0.125 lbs/sks Poly-R- Flake
PRODUCTION	Lead	3903	1071 6	658	3.27	9	2150	25	TUNED	N/A
PRODUCTION	Tail	1071 6	1831 3	1835	1.2	14.5	2201	25	н	Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (Ibs/gal)	Max Weight (Ibs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqf	Hd	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
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Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BIG SINKS DRAW 25-24 FED COM

Well Number: 331H

Top Depth	Bottom Depth	Mud Type	Min Weight (Ibs/gal)	Max Weight (Ibs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	Н	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	958	WATER-BASED MUD	8.5	9							
958	4403	SALT SATURATED	10	11							
4403	1831 4	WATER-BASED MUD	8.5	9.3							

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

Will run GR/CNL fromTD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.

List of open and cased hole logs run in the well:

CBL,DS,GR,MUDLOG

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5449

Anticipated Surface Pressure: 2970.04

Anticipated Bottom Hole Temperature(F): 164

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

BSD_25_24_Fed_Com_331H_H2S_Plan_20171101101604.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP Well Name: BIG SINKS DRAW 25-24 FED COM Well

Well Number: 331H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

BSD_25_24_Fed_Com_331H_Prelim_36x48WM_20171103061525.PDF BSD_25_24_Fed_Com_331H_Prelim_WP_Rpt_20171103061551.pdf BSD_25_24_Fed_Com_331H_Prelim_AC_Rpt_20171103061602.pdf Big Sinks Draw 25_24_Fed_Com_331H_Drilling_Plan_03_13_18_20180313110218.pdf

Other proposed operations facets description:

MULTI-BOWL VERBAGE 5M MULTI-BOWL WELLHEAD 5M CLOSED LOOP DESIGN DRILLING PLAN

Other proposed operations facets attachment:

BSD_25_24_Fed_Com_331H_Clsd_Loop_20171103062326.pdf BSD_25_24_Fed_Com_331H_MB_Verb_5M_20180313083847.pdf BSD_25_24_Fed_Com_331H_MB_Wellhd_5M_20180313083848.pdf Big_Sinks_Draw_25_24_Fed_Com_331H_Drilling_Plan_03_13_18_20180313084829.pdf

Other Variance attachment:

BSD_25_24_Fed_Com_331H_Co_flex_20171103062345.pdf BSD_25_24_Fed_Com_331H_Spudder_Rig_20171103114610.pdf









Casing Assumptions and Load Cases

Surface

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Surface Casing Burst Design								
Load Case	External Pressure	Internal Pressure						
Pressure Test	Formation Pore Pressure	Max mud weight of next hole- section plus Test psi						
Drill Ahead	Formation Pore Pressure	Max mud weight of next hole section						
Displace to Gas	Formation Pore Pressure	Dry gas from next casing point						

Surface Casing Collapse Design											
Load Case External Pressure Internal Pressure											
Full Evacuation	Water gradient in cement, mud above TOC	None									
Cementing	Wet cement weight	Water (8.33ppg)									

Surface Casing Tension Design								
Load Case	Assumptions							
Overpull	100kips							
Runing in hole	3 ft/s							
Service Loads	N/A							

Casing Assumptions and Load Cases

Intermediate

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Intermediate Casing Burst Design												
Load Case External Pressure Internal Pressure												
Pressure Test	Formation Pore Pressure	Max mud weight of next hole- section plus Test psi										
Drill Ahead	Formation Pore Pressure	Max mud weight of next hole section										
Fracture @ Shoe	Formation Pore Pressure	Dry gas										

Intermediate Casing Collapse Design											
Load Case External Pressure Internal Pressure											
Full Evacuation	Water gradient in cement, mud above TOC	None									
Cementing	Wet cement weight	Water (8.33ppg)									

Intermediate Casing Tension Design								
Load Case	Assumptions							
Overpull	100kips							
Runing in hole	2 ft/s							
Service Loads	N/A							

Production

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Production Casing Burst Design										
Load Case	External Pressure	Internal Pressure								
Pressure Test	Formation Pore Pressure	Fluid in hole (water or produced water) + test psi								
Tubing Leak	Formation Pore Pressure	Packer @ KOP, leak below surface 8.6 ppg packer fluid								
Stimulation	Formation Pore Pressure	Max frac pressure with heaviest frac fluid								

Production Casing Collapse Design										
Load Case	External Pressure	Internal Pressure								
Full Evacuation	Water gradient in cement, mud above TOC.	None								
Cementing	Wet cement weight	Water (8.33ppg)								

Production Casing Tension Design									
Load Case	Assumptions								
Overpull	100kips								
Runing in hole	2 ft/s								
Service Loads	N/A								



Devon Energy Center 333 West Sheridan Avenue Oklahoma City, Oklahoma 73102-5015

Hydrogen Sulfide (H₂S) Contingency Plan

For

Big Sinks Draw 25-24 Fed Com 331H

Sec-25 T-25S R-31E 2484' FNL & 925' FWL LAT. = 32.1017025' N (NAD83) LONG = 103.7372077' W

Eddy County NM

Devon Energy Corp. Cont Plan. Page 1



Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road. Crews should then block the entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. <u>There are no homes or buildings in or near the ROE</u>.

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H₂S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
 - \circ Detection of H₂S, and
 - Measures for protection against the gas,
 - Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H₂S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air = 1	2 ppm	N/A	1000 ppm

Characteristics of H₂S and SO₂

Contacting Authorities

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE (H₂S) TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- 1. The hazards and characteristics of hydrogen sulfide (H₂S)
- 2. The proper use and maintenance of personal protective equipment and life support systems.
- 3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- 4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- 1. The effects of H₂S metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- 2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- 3. The contents and requirements of the H₂S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H_2S .

1. Well Control Equipment

- A. Flare line
- B. Choke manifold Remotely Operated
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- D. Auxiliary equipment may include if applicable: annular preventer and rotating head.
- E. Mud/Gas Separator

2. Protective equipment for essential personnel:

30-minute SCBA units located at briefing areas, as indicated on well site diagram, with escape units available in the top doghouse. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

3. H₂S detection and monitoring equipment:

Portable H₂S monitors positioned on location for best coverage and response. These units have warning lights which activate when H₂S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

- Bell nipple
 Shale shaker
 Trip tank
- Suction pit
 Fig floor
 Cellar
- Choke manifold
 Living Quarters (usually the company man's trailer stairs.)

Visual warning systems:

- A. Wind direction indicators as shown on well site diagram
- B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

4. Mud program:

The mud program has been designed to minimize the volume of H₂S circulated to surface. Proper mud weight, safe drilling practices and the use of H₂S scavengers will minimize hazards when penetrating H₂S bearing zones.

5. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H₂S trim.
- B. All elastomers used for packing and seals shall be H₂S trim.

6. Communication:

- A. Company personnel have/use cellular telephones in the field.
- B. Land line (telephone) communications at Office

7. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H₂S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

Devon En	ergy Corp. Company Call List	
Drilling Su	pervisor – Basin – Mark Kramer	405-823-4796
Jer	ry Matthews - Day: 575-748-0161 Cell: 575-748-5234	
EHS Profe	ssional – Jason Robison	405-541-2841
<u>Agency</u>	Call List	
County	RODDS	202 2091
(575)	State Police	302 5588
10.01	City Police	397-9265
	Sheriff's Office	393-2515
	Ambulance	911
	Fire Department	397-9308
	LEPC (Local Emergency Planning Committee)	393-2870
	NMOCD	393-6161
	US Bureau of Land Management	393-3612
Eddy	Carlshad	
County	State Police	885-3137
(575)	City Police	885-2111
	Sheriff's Office	887-7551
	Ambulance	911
	Fire Department	885-3125
·	LEPC (Local Emergency Planning Committee)	887-3798
	US Bureau of Land Management	887-6544
	NM Emergency Response Commission (Santa Fe)	(505) 476-9600
	24 HR	(505) 827-9126
	National Emergency Response Center	(800) 424-8802
	National Pollution Control Center: Direct	(703) 872-6000
	For Oil Spills	(800) 280-7118
	Emergency Services	
	Wild Well Control	(281) 784-4700
	Cudd Pressure Control (915) 699-	(915) 563-3356
	0139	
	Halliburton	(575) 746-2757
	B. J. Services	(575) 746-3569
Give	Native Air – Emergency Helicopter – Hobbs	(575) 392-6429
GPS	Flight For Life - Lubbock, TX	(806) 743-9911
position:	Aerocare - Lubbock, TX	(806) 747-8923
	Med Flight Air Amb - Albuquerque, NM	
	Lifeguard Air Med Svc. Albuquerque, NM	(800) 222-1222
	Poison Control (24/7)	(0/0) 2/2-3115
	UII & Gas Pipeline 24 Hour Service	(800) 364-4366
	NOAA – Website - www.nhc.noaa.gov	

Prepared in conjunction with Dave Small





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	-103.739	32.122	408563.1	0 725310.5	7318.59	-615.97	7316.8	-7910	11268	359.83	8	18200
	-103.739	32.122	408463.1	0 725310.8	7218.59	-615.68	7216.8	-7910	11268	359.83	90	18100
	-103.739	32.121	408363.1	0 725311.1	7118.59	-615.39	7116.8	-7910	11268	359.83	8	18000
	-103.739	32.121	408263.1	0 725311.4	7018.59	-615.11	7016.B	-7910	11268	359.83	8	17900
	-103.739	32.121	408163.1	0 725311.7	6918.59	-614.82	6916.8	-7910	11268	359.83	98	17800
	103.739	32.12	408063.1	0 725312	6818.59	-614.53	6816.8	-7910	11268	359.83	8	17700
	-103.739	32.12	407963.1	0 725312.3	6718.59	-614.24	6716.8	-7910	11268	359.83	8	17600
	-103.739	32.12	407863.1	0 725312.6	6618.59	-613.95	6616.8	-7910	11268	359.83	8	17500
	-103.739	32.12	407763.1	0 725312.9	6518.59	-613.66	6516.8	-7910	11268	359,83	8	17400
	-103.739	32.119	407663.1	0 725313.1	6418.59	-613.37	6416.8	-7910	11268	359.83	8	17300
	-103.739	32.119	407563.1	0 725313.4	6318.59	-613.09	6316.8	-7910	11268	359.83	99	17200
	-103.739	32.119	407463.1	0 725313.7	6218.59	-612.8	6216.8	-7910	11268	359.83	90	17100
	-103.739	32.119	407363.1	0 725314	6118.59	-612.51	6116.8	-7910	11268	359.83	90	17000
	-103.739	32.118	407263.1	0 725314.3	6018.59	-612.22	6016.8	-7910	11268	359.83	90	16900
	-103.739	32.118	407163.1	0 725314.6	5918.59	-611.93	5916.8	-7910	11268	359.83	8	16800
	-103.739	32.118	407063.1	0 725314.9	5818.59	-611.64	5816.8	-7910	11268	359.83	8	16700
	-103.739	32.117	406963.1	0 725315.2	5718.59	-611.35	5716.81	-7910	11268	359.83	8	16600
	-103.739	32.117	406863.1	0 725315.5	5618.59	-611.06	5616.81	-7910	11268	359.83	8	16500
	-103.739	32.117	406763.1	0 725315.7	5518.59	-610.78	5516.81	-7910	11268	359.83	8	16400
	-103.739	32.117	406663.1	0 725316	5418.59	-610.49	5416.81	-7910	11268	359.83	8	16300
	-103.739	32.116	406563.1	0 725316.3	5318.59	-610.2	5316.81	-7910	11268	359.83	8	16200
	-103.739	32.116	406463.1	0 725316.6	5218.59	-609.91	5216.81	-7910	11268	359.83	8	16100
2.1157852, -103.7390853 - 16003' MD, 11268' TVD, 330' FWL	-103.739 3	32.116	406366.1	0 725316.9	5121.59	-609.63	5119.81	-7910	11268	359.83	8	16003
	-103.739	32.116	406363.1	0 725316.9	5118.59	-609.62	5116.81	-7910	11268	359.83	8	16000
	-103.739	32.116	406263.1	0 725317.2	5018.59	-609.33	5016.81	-7910	11268	359.83	8	15900
	103.739	32.115	406163.1	0 725317.5	4918.59	-609.04	4916.81	-7910	11268	359.83	99	15800
	-103.739	32.115	406063.1	0 725317.8	4818.59	-608.75	4816,81	-7910	11268	359.83	8	15700
	-103.739	32.115	405963.1	0 725318	4718.59	-608.47	4716.81	-7910	11268	359.83	99	15600
	-103.739	32.114	405863.1	0 725318.3	4618.59	-608.18	4616.81	-7910	11268	359.83	8	15500
	-103.739	32.114	405763.1	0 725318.6	4518.59	-607.89	4516.81	-7910	11268	359.83	8	15400
	-103.739	32.114	405663.1	0 725318.9	4418.59	-607.6	4416.81	-7910	11268	359.83	8	15300
	-103.739	32.114	405563.1	0 725319.2	4318.59	-607.31	4316.81	-7910	11268	359.83	8	15200
	-103.739	32.113	405463.1	0 725319.5	4218.59	-607.02	4216.81	-7910	11268	359.83	90	15100
	-103.739	32.113	405363.1	0 725319.8	4118.59	-606.73	4116.81	-7910	11268	359.83	8	15000
	-103.739	32.113	405263.1	0 725320.1	4018.59	-606.44	4016.81	-7910	11268	359.83	8	14900
	103.739	32.112	405163.1	0 725320.4	3918.59	-606.16	3916.81	-7910	11268	359.83	8	14800
	-103.739	32.112	405063.1	0 725320.6	3818.59	-605.87	3816.81	-7910	11268	359.83	90	14700

All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North. Vertical depths are relative to GL 3332+KB 36'. Monthings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100 feet. Vertical Section is from Slot and calculated along an Atlmuth of 359.830° (Grid).

Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone. Grid Convergence at Surface is 0.317°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 18313.53ft,, the Bottom Hole Displacement is 7455.84ft,, in the Direction of 359.830° (Grid).



Anticollision Report



Company:	Devon Energy Corp.	Local Co-ordinate Reference:	Well 331H
Project:	Eddy County, NM (NAD83)	TVD Reference:	GL 3332'+KB 26' @ 3358.00usft (Rig TBD)
Reference Site:	Big Sinks Draw 25-24	MD Reference:	GL 3332'+KB 26' @ 3358.00usft (Rig TBD)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	331H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ОН	Database:	WellPlanner1
Reference Design:	Prelim Plan	Offset TVD Reference:	Reference Datum
Reference	Prelim Plan	and a second	
Filter type:	NO GLOBAL FILTER: Using user defi	ined selection & filtering criteria	

Survey Tool Program		Data	11/1/2017			
Warning Levels Evaluat	ed at:	2.00	Sigma	Casing Method:	Not applied	
Results Limited by:	Maximur	m center-c	enter distance of 2,485.72 usft	Error Surface:	Pedal Curve	
Depth Range:	Unlimited	d		Scan Method:	Closest Approach 3D	
Interpolation Method:	MD Inter	val 100.00	Jusft	Error Model:	ISCWSA	

	Survey 1001 Program		Date 11/1/201		
	From	То			
ļ	(usft)	(usft)	Survey (Wellbore	Tool Name	Description
	0.00	18,313.50	Prelim Plan (OH)	MWD+HDGM	OWSG MWD + HDGM

Summary

	Reference	Offset	Dista	nce		
	Measured	Measured	Between	Between	Separation	Warning
Site Name	Depth	Depth	Centres	Ellipses	Factor	
Offset Weli - Wellbore - Design	(usft)	(usft)	(usft)	(usft)		
Big Sinks Draw 25-24						
1H - OH - Surveys	10,426.65	10,753.06	87.60	25.71	1.415 Le	vel 3, CC, ES, SF
521H - OH - Prelim Plan	4,875.46	4,873.83	91.89	57.00	2.634 C	
521H - OH - Prelim Plan	5,100.00	5,101.98	92.74	56.22	2.539 ES	6
521H - OH - Prelim Plan	8,401.57	8,406.18	128.63	68.63	2.144 SF	•
531H - OH - Preim Plan	2,246.87	2,247.58	151.28	135.74	9.734 C	0
531H - OH - Preim Plan	2,900.00	2,900.19	153.52	133.31	7.595 ES	6
531H - OH - Prelm Plan	8,000.00	7,996.11	275.26	218.49	4.849 SF	:
611H - OH - Prelim Plan	1,000.00	1,000.00	30.06	23.34	4.475 C	0
611H - OH - Prelim Plan	1,100.00	1,100.00	30.48	23.05	4.103 ES	6
611H - OH - Prelim Plan	6,600.00	6,602.70	97.47	49.94	2.051 SI	-
711H - OH - Prelim Plan	1,000.00	1,000.00	60.03	53.31	8.936 C	C
711H - OH - Prelim Plan	1,100.00	1,100.00	60.45	53.02	8.138 ES	6
711H - OH - Prelim Plan	8,500.00	8,515.36	263.67	202.33	4.298 SI	=

Offset De	sign	Big Sinl	ks Draw 2	5-24 - 1H -	OH - Sur	veys							Offset Site Error:	0.00 usft
Survey Prog	ram: 100-	NS-GYRO-MS	, 9997-MWD										Offset Well Error:	0.00 usft
Refer	ence	Offs	ət	Semi Major	Axis				Dista	nce				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (*)	Offset Wellbor +N/-S (usft)	e Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usît)	Minimum Separation (usft)	Separation Factor	Waming	
0.00	0.00	10.98	0.18	0.00	0.01	-84.49	40.99	-424.99	426.96					
100.00	100.00	112.45	101.65	0.13	0.13	-84.44	41.32	-424.72	426.73	426.47	0.26	1,639.294		
200.00	200.00	213.00	202.20	0.49	0.38	-84.40	41.61	-424.26	426.30	425.43	0.88	486.699		
300.00	300.00	314.62	303.82	0.85	0.65	-84.32	42.10	-423.42	425.53	424.03	1.50	283.722		
400.00	400.00	412.70	401.89	1.21	0.91	-84.24	42.63	-422.76	424.91	422.79	2.11	200.936		
500.00	500.00	514.00	503.1 9	1.57	1.16	-84.22	42.74	-422.10	424.27	421.55	2.72	155.764		
600.00	600.00	612.77	601.96	1.92	1.40	-84.18	42.99	-421.45	423.64	420.32	3.32	127.416		
671.06	671.06	681.88	671.06	2.18	1.55	-84.14	43.27	-421.26	423.48	419.75	3.73	113.627		
700.00	700.00	710.20	699.38	2.28	1.60	-84.12	43.36	-421.27	423.50	419.62	3.88	109.160		
800.00	800.00	809.21	798.39	2.64	1.70	-84.11	43.51	-421.52	423.77	419.43	4.34	97.645		
900.00	900.00	908.53	897.72	3.00	1.81	-84.06	43.91	-421.94	424.23	419.42	4.81	88.249		
1,000.00	1,000.00	1,004.51	993.69	3.36	1.93	-84.06	44.03	-422.96	425.30	420.01	5.29	80.454		
1,100.00	1,100.00	1,104.79	1,093.95	3.71	2.02	-9.17	43.71	-424.46	426.32	420.58	5.73	74.373		
1,200.00	1,199.99	1,201.68	1,190.83	4.06	2.14	-9.27	43.40	-426.25	426.83	420.63	6.20	68.831		
1,300.00	1,299.97	1,303.07	1,292.19	4.41	2.30	-9.37	43.15	-428.30	426.66	419.96	6.71	63.629		



Anticollision Report



Offset Site Error:

0.00 usft

Company: Devon Energy Corp. Eddy County, NM (NAD83) Project: Big Sinks Draw 25-24 **Reference Site:** Site Error: 0.00 usft **Reference Well:** 331H Well Error: 0.00 usft ОН **Reference Wellbore Reference Design:** Prelim Plan

Local Co-ordinate Reference: **TVD Reference:** MD Reference: North Reference: **Survey Calculation Method:** Output errors are at Database: Offset TVD Reference:

Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset Design	Big Sinks Draw 25-24 - 1H - OH - Surveys
Survey Program:	100-NS-GYRO-MS, 9997-MWD

Survey Progr	am: 10	0-NS-GYRO-MS	6, 9997-MWD										Offset Well Error:	0.00 usft
Refere	nce	Offe	et	Semi Major	Axis			. .	Diste	nce		_		
Measured	Vertical	Measured	Vertical	Reference	Offset	Highalde	Offset Weilborg	e Centre	Between	Between	Minimum	Separation	Warning	
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	100maçe (*)	+N/-S (usft)	+E/-W	(usft)	(usft)	Separation (usft)	Pactor		
1 400 00			4 200 07				(4514)	(0010)						
1,400.00	1,399.92	2 1,399.97	1,389.07	4.76	2.47	-9.49	42.98	-430.46	425.85	418.63	7.22	58.943		
1,500.00	1,499.84	4 1,501.51	1,490.58	5.11	2.67	-9.63	42.89	-432.88	424.35	416.57	1.11	54.598		
1,800.00	1,099.7	3 1,001.01	1,090.00	5.47	2.8/	-9.80	42.65	-435.15	421.86	413.53	8.32	50.578		
1,700.00	1 700 31	5 1,702.00	1,091.09	5.62	3.07	-10.00	41.96	437.32	410.33	409.45	0.00	47.109		
1,000.00	1 800 1	1 1 003.90	1 802 40	6.18	3.27	-10.37	41.03	-439.12	413.39	209.24	9.43	43.030		
1,500.00	1,055.1	1,505.42	1,052.40	0.54	3.47	-10.75	39.05	-440.02	400.33	390.34	3.33	40.079		
2,000.00	1,998.8	6 2,003.95	1,992.90	6.90	3.67	-11.14	38.40	-442.50	403.02	392.47	10.55	38.212		
2,100.00	2,098.63	2 2,101.72	2,090.64	7.27	3.87	-11.59	36.75	-444.32	397.92	386.81	11.11	35.827		
2,200.00	2,198.3	7 2,200.89	2,189.77	7.63	4.09	-12.05	35.13	-446.50	393.16	381.48	11.68	33.659		
2,300.00	2,298.13	3 2,298.90	2,287.74	7.99	4.32	-12.52	33.48	-448.96	388.76	376.49	12.26	31.707		
2,400.00	2,397.8	8 2,397.28	2,386.06	8.36	4.55	-13.01	31.81	-451.86	384.80	371.96	12.85	29.950		
0.500.00	2 407 6				4 70									
2,500.00	2.497.04	4 2,495.41	2,484.13	8.72	4.79	-13.44	30.60	-455.14	381.30	367.85	13.44	28.363		
2,000.00	2,097.0	5 2,090.00	2,004.19	9.09	5.03	-13.91	29.20	-400.71	3/8.03	363.96	14.00	20.912		
2,700.00	2,097.1	0 2,093.44	2,004.01	9.45	J.20 5.52	-14.42	27.02	402.22	374.74	356 20	14.00	20.079		
2,000.00	2,750.50	6 2,794,04	2,703.34	10.19	5.78	-14.90	25.24	-469.43	368.43	352 57	15.20	23 221		
2,000.00	2,550.00	,007.04	2,000.27	10.15	3.73	-,0.00	23.23		000.40	332.37	10.01	20.221		
3,000.00	2,996.4	1 2,994.82	2,983.18	10.55	6.03	-15.84	23.93	-473.05	365.32	348.84	16.48	22.170		
3,100.00	3,096.1	7 3,096.40	3,084.68	10.92	6.29	-16.39	22.38	-476.48	362.01	344.92	17.09	21.180		
3,200.00	3,195.9	2 3,198.55	3,186.78	11.29	6.54	-17.01	20.44	-479.35	358.17	340.47	17.70	20.231		
3,300.00	3,295.6	8 3,304.18	3,292.37	11.65	6.78	-17.72	18.15	-481.11	353.24	334.94	18.30	19.304		
3,400.00	3,395.4	3 3,404.23	3,392.37	12.02	6.98	-18.52	15.40	-481.90	347.53	328.67	18.86	18.424		
3,500.00	3,495.1	9 3,502.76	3,490.82	12.39	7.18	-19.53	11.52	-482.71	342.01	322.58	19.42	17.609		
3,600.00	3,394.94	4 3,602.98	3,590.88	12.76	7.58	-20.87	5.92	-483.45	336.67	316.69	19.98	15.848		
3,700.00	3,094.7	5 3,701.81	3,009.43	13.13	7.30	-22.00	-1.49	-403.90	331.00	305.76	20.54	15.490		
3,000.00	3,754.4	J 3,001.21	3,700.34	13.45	7 97	-24.73	-11.30	-493 55	320.00	300.65	21.10	14 877		
5,500.00	0,004.2	0,502.40	0,000.70	10.00	1.01	-21.45	-20.10	-403.33	JEE.JE	500.05	21.07	14.011		
4,000.00	3,993.9	6 3,995.41	3,980.79	14.23	8.16	-30.36	-37.17	-483.00	319.10	296.88	22.22	14.359		
4,063.38	4,057.1	9 4,053.79	4,038.38	14.47	8.29	-32.38	-46.73	-483.20	318.49	295.91	22.58	14.107		
4,100.00	4,093.72	2 4,087.31	4,071.36	14.60	8.36	-33.62	-52.75	-483.48	318.70	295.93	22.78	13.993		
4,200.00	4,193.4	7 4,182.26	4,164.44	14.97	8.57	-37.37	-71.46	-484.53	321.11	297.77	23.34	13.760		
4,300.00	4,293.2	3 4,273.90	4,253.96	15.34	8.79	-41.12	-90.97	-486.01	326.17	302.30	23.87	13.663		
4 400 00	4 302 0	4 769 76	4 346 08	15 71	0.02	44.85	111 74	488 70	224.20	200.09	24.42	13 690		
4 500.00	4 492 7	4,300.33	4 446 09	16.08	9.02	-44.65	-111.74	-400.79	343.60	318 65	24.42	13 724		
4,600.00	4.592.5	0 4 576 85	4 549 99	16.45	9.53	-52 24	-154.76	-493.31	352 10	326 41	25.69	13 705		
4,700.00	4,692.2	5 4,681.63	4,653.23	16.81	9.79	-55.35	-172.63	-494,11	359.43	333.11	26.32	13.654		
4,800.00	4,792.0	1 4,780.80	4,751.28	17.18	10.03	-57.90	-187.50	-495.19	366.49	339.57	26.92	13.613		
4,900.00	4,891.7	6 4,885.97	4,855.51	17.55	10.29	-60.21	-201.37	-497.13	373.50	345.94	27.56	13.550		
5,000.00	4,991.5	2 4,986.05	4,954.79	17.92	10.54	-62.38	-213.89	-497.82	379.74	351.57	28.17	13.481		
5,100.00	5,091.2	7 5,086.57	5,054.61	18.29	10.79	-64.38	-225.78	-498.90	386.25	357.47	28.78	13.420		
5,200.00	5,191.0	3 5,190.05	5,157.48	18.66	11.05	-66.26	-236.92	-500.10	392.42	363.01	29.41	13.343		
5,300.00	3,290.70	0 0,290.20	5,263.19	19.03	11.30	-08.09	-246.97	-500.56	397.49	367.44	30.05	13.229		
5,400.00	5,390.5	4 5,396.70	5,363.29	19.40	11.55	-69.73	-255.41	-500.60	401.83	371.17	30.66	13.108		
5,500.00	5,490.2	9 5,496.08	5,462.37	19.77	11.79	-71,17	-263.03	-501.48	406.33	375.07	31.27	12.996		
5,600.00	5,590.0	5 5,599.99	5,566.03	20.14	12.05	-72.57	-270.26	-502.52	410.55	378.66	31.90	12.872		
5,700.00	5,689.8	0 5,700.83	5,666.66	20.51	12.30	-73.89	-276.61	-503.20	414.27	381.76	32.51	12.742		
5,800.00	5,789.5	6 5,802.71	5,768.38	20.88	12.56	-75.10	-282.26	-504.31	417,74	384.61	33.14	12.606		
5,900.00	5,889.3	1 5,905.99	5,871.52	21.25	12.82	-76.34	-287.47	-504.82	420.67	386.91	33.76	12.459		
6,000.00	5,989.0	7 6,005.04	5,970.46	21.62	13.06	-77.51	-292.14	-505.23	423.46	389.08	34.37	12.319		
6,100.00	6,088.8	2 6,106.78	6,072.11	21.99	13.32	-78.57	-296.31	-506.37	426.18	391.17	35.00	12.175		
6,200.00	6,188.5	6,206.95	6,172.20	22.36	13.57	-79.59	-300.14	-507.40	428.74	393.12	35.63	12.034		
6,300.00	6,288.3	J 6,307.99	6,273.17	22.73	13.83	-80.63	-303.89	-508.16	431.24	394.99	36.25	11.896		
6,400.00	6,388.0	9 6,411.15	6,376.28	23.10	14.09	-81.70	-307.19	-508.66	433 20	396.41	36.88	11 740		
									400.20	550.41		11,140		



Anticollision Report



Company: Devon Energy Corp. Eddy County, NM (NAD83) Project: **Reference Site:** Big Sinks Draw 25-24 Site Error: 0.00 usft **Reference Well:** 331H 0.00 usft Well Error: **Reference Wellbore** ОН **Reference Design:** Prelim Plan

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference: Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset De	ngia	Big Sink	s Draw 2	5-24 - 1H -	OH - Sur	veys							Offset Site Error:	0.00 usft
Survey Progr Refer	rama: 100 ence	-NS-GYRO-MS, Offse	. 9997-MWD it	Semi Malor	Axis				Dist	ance			Offset Well Error:	0.00 usft
Measured	Vertical	Measured	Vertical	Reference	Offset	Highsidə	Offset Wellbor	e Centre	Between	Between	Mintmum	Separation	Warning	
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usit)	(usfi)	(usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor		
6,500.00	6,487.84	6,509.28	6,474.35	23.47	14.33	-82.72	-310.29	-508.90	435.36	397.87	37.49	11.612		
6,600.00	6,587.60	6,611.01	6,576.04	23.84	14.57	-83.82	-313.48	-508.78	437.41	399.30	38.11	11.478		
6,700.00	6,687.35	6,711.63	6,676.61	24.21	14.80	-84.95	-316.43	-508.15	439.26	400.55	38.71	11.347		
6,800.00	6,787.11	6,810.67	6,775.61	24.58	15.03	-86.04	-319.32	-507.61	441.28	401.97	39.31	11.225		
6,900.00	6,886.86	6,913.14	6,878.04	24.95	15.28	-87.07	-321.79	-507.57	443.14	403.21	39.93	11.097		
7,000.00	0,980.02	7,013.81	6,978.70	25.32	15.54	-87.95	-323.52	-506.34	444.71	404.15	40.56	10.903		
7,100.00	7,086.38	7,113.19	7,078.06	25.69	15.79	-88.76	-325.08	-509.50	446.35	405.16	41.19	10.837		
7,200.00	7,100.13	7,212.93	7 374 33	20.00	16.00	-09.37	-328.58	-510.02	440.00	400.23	47.02	10.611		
7 400 00	7 385 64	7 408 04	7 372 83	26.40	16.56	-91.15	-331.03	-513.00	453.13	410.06	43.07	10.522		
7,500.00	7,485.40	7,507.76	7,472.50	27.17	16.82	-91.94	-333.61	-514.33	456.16	412.46	43.70	10.439		
7,600.00	7,585.15	7,607.94	7,572.65	27.54	17.08	-92.73	-336.16	-515.68	459.22	414.90	44.33	10.360		
7,700.00	7,684.91	7,708.35	7,673.01	27.91	17.33	-93.59	-338.75	-516.29	462.27	417.31	44.95	10.283		
7,800.00	7,784.66	7,809.35	7,773.99	28.28	17.58	-94.49	-341.21	-516.55	465.20	419.62	45.58	10.206		
7,900.00	7,884.42	7,908.61	7,873.21	28.65	17.84	-95.35	-343.56	-516.88	468.20	422.00	46.20	10.134		
8,000.00	7,984.17	8,011.00	7,975.58	29.02	18.10	-96.22	-345.70	-517.17	471.02	424.18	46.83	10.057		
8,100.00	8,083.93	8,110.50	8,075.06	29.39	18.35	-97.04	-347.52	-517.60	473.71	426.25	47.46	9.981		
8,200.00	8,183.68	8,210.19	8,174.74	29.76	18.61	-97.83	-349.35	-518.21	476.52	428.43	48.09	9.909		
8,300.00	8,283.44	8,312.28	8,276.81	30.13	18.87	-98.66	-350.99	-518.59	479.17	430.45	48.72	9.835		
8,400.00	8,383.19	8,415.27	8,379.79	30.50	19.11	-99.39	-351.95	-519.65	481.30	431.97	49.33	9.756		
8,500.00	8,482.95	8,517.57	8,482.07	30.87	19.32	-100.03	-352.28	-521.37	482.96	433.05	49.91	9.077		
8,600.00	8,582.70	8,619.45	8,583.96	31.24	19.48	-100.73	-351.96	-522.45	483.99	433.56	50.44	9.596		
8,700.00	8,682.46	8,713.18	8,677.67	31.61	19.65	-101.36	-352.28	-523.63	485.77	434.78	50.99	9.527		
8,800.00	8,782.21	8,811.85	8,776.33	31.98	19.89	-102.06	-353.35	-524.50	488.32	436.71	51.60	9.463		
8,900.00	8,881.97	8,912.52	8,876.99	32.35	20.15	-102.81	-354.37	-524.95	490.86	438.62	52.24	9.39/		
9,000.00	0,901.72	9,007.80	0,9/2.0/	32.12	20.40	-103.49	-335.79	-323.70	493.97	441.12	52.65	5.040		
9,100.00	9,081.48	9,106.94	9,071.37	33.09	20.66	-104.06	-357.77	-527.54	497.68	444.21	53.48	9.306		
9,200.00	9,181.23	9,212.60	9,176.99	33.46	20.91	-104.60	-359.27	-529.96	500.88	446.75	54.11	9.257		
9,300.00	9,280.99	9,309.30	9,2/3.00	33.84	21.15	-105.11	-360.48	-532.05	507.46	449.21	55 33	9.210		
9,400.00	9,300.74	9,408.90	9,311.23	34.21	21.40	-105.00	-364.06	-535.02	511 30	455 34	55.96	9 137		
0,000.00	0,000.00	0,000.00	0,000	04.00	21.00		205.00	626.00	515.04	450.45	50.50	0 101		
9,600.00	9,580.25	9,608.02	9,572.29	34.95	21.92	-106.81	-365.88	-536.98	515.04	458.45	58.59	9,101		
9,700.00	9,000.01	9,710.21	9,074.44	35.52	22.17	-107.33	-368.26	-540.88	521.39	463.56	57.83	9.001		
9,900.00	9.879.52	9.976.48	9,940.50	36.06	22.72	-109.11	-364.37	-540.75	523.27	465.14	58.13	9.002		
10,000.00	9,979.28	10,743.76	10,405.65	36.43	24.61	173.06	149.34	-507.93	432.60	396.38	36.22	11.944		
10,100.00	10.079.07	10,747.32	10.405.69	36.80	24 64	170.58	152.89	-507.86	336.0A	298.42	37,66	8.925		
10,200.00	10,178.96	10,749.91	10,405.72	37.16	24.65	168.48	155.49	-507.81	241.69	201.35	40.34	5.992		
10,300.00	10,278.92	10,751.71	10,405.73	37.52	24.67	166.94	157.28	-507.78	153.46	106.72	46.74	3.283		
10,400.00	10,378.91	10,752.84	10,405.74	37.87	24.67	166.00	158.41	-507.76	91.56	30.94	60.61	1.510		
10,426.65	10,405.57	10,753.06	10,405.74	37.96	24.68	165.86	158.63	-507.76	87.60	25.71	61.89	1.415 L	evel 3, CC, ES, SF	
10,500.00	10,478.91	10,753.45	10,405.75	38.21	24.68	90.64	159.03	-507.75	114.11	62.26	51.85	2.201		
10,600.00	10,578.91	10,754.20	10,405.75	38.55	24.69	90.15	159.78	-507.74	194.04	152.14	41.91	4.630		
10,700.00	10,678.91	10,754.91	10,405.76	38.89	24.69	89.68	160.49	-507.73	286.85	247.78	39.07	7.342		
10,800.00	10,778.61	10,761.15	10,405.80	39.23	24.74	58.04	166.73	-507.61	382.99	344.72	38.27	10.007		
10,900.00	10,875.77	10,782.19	10,405.86	39.57	24.89	31.03	187.77	-507.22	478.11	439.96	38.15	12.532		
11,000.00	10,967.44	10,816.71	10,405.73	39.89	25.15	18.82	222.28	-506.52	568.76	530.47	38.29	14.854		
11,100.00	11,050.83	10,865.15	10,405.05	40.18	25.52	13.00	270.70	-505.47	652.18	613.64	38.54	16.924		
11,200.00	11,123.41	10,928.99	10,403.74	40.45	26.05	9.85	334.51	-504.45	725.67	686.85	i 38.82	18.691		
11,300.00	11,182.98	11,014.16	10,401.97	40.71	26.77	7.98	419.68	-503.81	786.54	747.42	39.12	20.103		
11,400.00	11,227.72	11,109.29	10,400.83	40.98	27.59	6.90	514.78	-503.62	832.10	792.63	39.47	21.082		
11,500.00	11,256.27	11,218.32	10,400.72	41.29	28.59	6.35	623.81	-503.29	860.65	820.78	39.87	21.586		
			CC - Min	centre to c	enter dist	ance or cove	ergent point, S	F - min sep	aration fac	tor, ES - n	nin ellipse s	separation		



Anticollision Report



Company: Devon Energy Corp. Project: Eddy County, NM (NAD83) Big Sinks Draw 25-24 **Reference Site:** Site Error: 0.00 usft **Reference Well:** 331H Well Error: 0.00 usft **Reference Wellbore** ОН **Reference Design:** Prelim Plan

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference: Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset De	sign	Big Sin	ks Draw 2	5-24 - 1H -	OH - Sur	veys							Offset Site Error:	0.00 usft
Survey Prog	ram: 10	0-NS-GYRO-M	S, 9997-MWD										Offset Well Error:	0.00 usft
Refer	BUCO	Offs	et	Semi Major	Axis				Dista	ince				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (*)	Offset Wellbor +N/-S (usft)	e Centre +E/-W (usft)	Between Centres (usft)	Between Eilipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
11,600.00	11,267.7	7 11,311.44	10,401.17	41.62	29.57	6.20	716.94	-502.80	871 69	831.39	40.30	21 631		
11,700.00	11,268.0	11,389.71	10,400.34	41.98	30.47	6.25	795.19	-502.16	873.12	832.36	40.50	21 422		
11,800.00	11,268.0	0 11,471.99	10,397.50	42.38	31.47	6.32	877.42	-500.91	876.73	835.44	41.29	21,233		
11,900.00	11,268.0	11,572.60	10,392.81	42.83	32.69	6.44	977.90	-498.93	881.61	839.76	41.86	21.062		
12,000.00	11,268.0	11,674.92	10,388.77	43.33	33.95	6.54	1,080.12	-497.13	885.76	843.29	42.47	20.854		
12,100.00	11,268.00	0 11,765.48	10,384.85	43.86	35.14	6.66	1,170.57	-495.13	890.36	847.21	43.15	20.635		
12,200.00	11,268.00	11,872.61	10,379.76	44.43	36.55	6.86	1,277.52	-491.64	895.52	851.65	43.87	20.415		
12,300.00	11,268.0	11,9/5.18	10,375.81	45.05	37.91	7.03	1,379.98	-488.88	899.71	855.08	44.63	20.159		
12,400.00	11 289 0	12,095.79	10,372.36	45.70	39.56	7,13	1,500.52	-487.09	902.78	857.33	45.45	19.862		
12,500.00	11 268 00	12,190.07	10,370.01	40.38	40.97	7.21	1,602.78	-485.97	904.45	858.16	46.30	19.535		
12,700.00	11.268.00) 12.394.64	10,367.29	47.86	42.30	7.30	1,097.22	-483.69	906.40	859.22	47.18	19.212		
12,800.00	11,268.00	12,504.30	10,366.03	48.64	45.38	7.61	1,755.27	-401.02	900.04	860.03	40.11	10.000		
12,900.00	11,268.00	12,604.97	10,365.67	49.46	46.86	7.78	2,009.55	-477 43	910 73	860.64	50.09	18 180		
13,000.00	11,268.00) 12,711.61	10,365.26	50.30	48.47	7.93	2.116.17	-475.19	911 46	860.31	51 15	17 819		
13,100.00	11,268.00) 12,830.14	10,366.50	51.17	50.27	8.04	2,234.68	-474.02	910.61	858.33	52.28	17.419		
13,200.00	11,268.00	12,928.27	10,368.39	52.06	51.80	8.07	2,332.79	-474.00	908.74	855.41	53.33	17.039		
13,300.00	11,268.00	13,028.53	10,370.32	52.98	53.34	8.17	2,433.02	-473.02	907.02	852.58	54.44	16.660		
13,400.00	11,268.00	13,130.46	10,372.55	53.93	54.92	8.32	2,534.92	-471.28	905.13	849.53	55.60	16.280		
13,500.00	11,268.00	13,227.44	10,374.65	54.89	56.44	8.50	2,631.85	-469.00	903.38	846.61	56.77	15.913		
13,600.00	11,268.00	13,328.34	10,376.87	55.88	58.03	8.71	2,732.69	-466.26	901.66	843.66	57.99	15.547		
13,700.00	11,268.00	13,421.96	10,378.53	56.88	59.53	8.83	2,826.27	-464.78	900.20	841.01	59.18	15.210		
13,708.89	11,268.00	13,471.80	10,378.93	57.48	60.33	8.90	2,876.11	-463.99	899.90	840.03	59.87	15.031		
13,000.00	11,200.00	13,500.54	10,378.93	57.91	60.89	8.95	2,910.83	-463.24	900.04	839.69	60.35	14.913		
14,000,00	11,200.00	13,390.30	10,376.04	58.95	62.23	9.13	2,994.61	-460.52	901.65	840.09	61.56	14.646		
14,100.00	11.268.00	13,792.00	10,374.48	61.08	65 50	9.34	3,101.62	-457.10	903.84	840.94	62.91	14.368		
14,200.00	11.268.00	13.883.48	10 371 99	62 17	66.99	9.39	3,150.15	-455.26	905.91	843.33	04.10	14.122		
14,300.00	11,268.00	13,980.41	10.368.77	63.27	68.57	9.43	3 384 47	-455 27	917 14	845.50	66 6A	13,500		
14,400.00	11,268.00	14,066.00	10,365.09	64.39	69.98	9.45	3,469,98	-454.59	916.55	848.68	67.87	13.505		
14,500.00	11,268.00	14,189.65	10,360.42	65.52	71.99	9.47	3,593.54	-453.90	920.41	851.13	69.27	13.287		
14,600.00	11,268.00	14,304.72	10,358.69	66.67	73.83	9.53	3,708.59	-452.92	922.07	851.39	70.68	13.046		
14,700.00	11,268.00	14,415.59	10,358.54	67.82	75.61	9.62	3,819.45	-451.76	922.42	850.33	72.09	12.795		
14,785.05	11,268.00	14,499.52	10,358.96	68.82	76.98	9.69	3,903.37	-450.88	922.20	848.93	73.27	12.586		
14,000.00	11,208.00	14,512.58	10,358.99	68.99	77.19	9.70	3,916.43	-450.74	922.20	848.74	73.46	12.554		
15,000,00	11 268 00	14,597.76	10,358.54	70.16	78.60	9.78	4,001.60	-449.60	923.01	848.22	74.78	12.343		
15,100.00	11.268.00	14,831,22	10 358 43	72 54	82.44	9.91	4,112.34	-447.38	924.61	848.35	76.26	12.124		
15,200.00	11,268.00	14,939,73	10.361.61	73.75	84.25	10.05	4,233.01	-445.66	923.91	040.10	70.02	11.873		
15,300.00	11,268.00	15,023.68	10.363.32	74.96	85.65	10.12	4 427 41	-445.93	921.09	839.47	19.21	11.019		
15,352.59	11,268.00	15,066.14	10,363.55	75.60	86.36	10.13	4,469.87	-446.09	918.78	837.50	81.29	11.303		
15,400.00	11,268.00	15,105.83	10,363.35	76.18	87.03	10.13	4,509.55	-446.18	919.02	837.10	81.91	11.219		
15,500.00	11,268.00	15,209.32	10,362.86	77,41	88.74	10.15	4,613.04	-446.15	919.53	836.19	83.34	11.034		
15,600.00	11,268.00	15,299.62	10,361.93	78.65	90.23	10.16	4,703.33	-445.99	920.62	835.91	84.71	10.868		
15,700.00	11,268.00	15,411.75	10,361.05	79.89	92.10	10.19	4,815.46	-445.79	921.48	835.28	86.20	10.690		
15,790.14	11,268.00	15,512.84	10,361.54	81.02	93.78	10.22	4,916.55	-445.62	921.12	833.57	87.55	10.521		
15,800.00	11,268.00	15,513.56	10,361.40	81.14	93.80	10.23	4,917.27	-445.50	921.24	833.58	87.66	10.510		
15,900.00	11,268.00	15,603.15	10,361.03	82.40	95.29	10.32	5,006.84	-444.07	921.95	832.85	89.11	10.347		
16,000.00	11,268.00	15,694.00	10,360.08	83.66	96.82	10.38	5,097.69	-443.18	923.27	832.73	90.54	10.198		
16,100.00	11,268.00	15,768.41	10.357.61	84.93	98.07	10.45	5,172.04	-441.95	926.84	834.97	91.86	10.089		
16,200.00	11,268.00	15,880.46	10,353.25	86.21	99.96	10.53	5,283.99	-440.01	931.02	837.56	93.46	9.962		
10,300.00	,∠08.00	15,990.29	10,350.09	87.49	101.79	10.60	5,393.77	-438.66	934.14	839.12	95.02	9.831		

11/1/2017 4:41:19PM

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



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Pro Directional

Anticollision Report



Offset Site Error:

0.00 usft

Devon Energy Corp. Company: Eddy County, NM (NAD83) Project: Big Sinks Draw 25-24 Reference Site: 0.00 usft Site Error: **Reference Well:** 331H Well Error: 0.00 usft Reference Wellbore он Reference Design: Prelim Plan

Local Co-ordinate Reference: **TVD Reference: MD Reference:** North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference:

Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset Design	Big Sinks Draw 25-	24 - 1H - OH - Surveys
Survey Program:	100-NS-GYRO-MS, 9997-MWD	
Reference	Offset	Semi Major Axis

Survey Prog	ram: 100	-NS-GYRO-MS	, 9997-MWD										Offset Well Error:	0.00 usft
Refer	ence	Offs	ot	Semi Major	Axis				Dist	Ince				
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbor	e Centre	Between	Between	Minimum	Separation	Warning	
Depth	Depth	Depth	Depth			Toofface	+N/-S	+E/-₩	Centres	Ellipses	Separation	Factor		
(usft)	(usft)	(sft)	(usft)	(usft)	(usft)	(f)	(usft)	(usft)	(usn)	(usm)	(usn)			
16,400.00	11,268.00	16,115.98	10,348.84	88.77	103.88	10.76	5,519.42	-436.15	935.61	838.85	96.75	9.670		
16,500.00	11,268.00	16,227.57	10,350.23	90.07	105.77	10.82	5,631.00	-435.73	934.48	836.15	98.33	9.504		
16,600.00	11,268.00	16,340.58	10,352.77	91.36	107.67	10.88	5,743.98	-435.54	932.36	832.46	99.90	9.333		
16,700.00	11,268.00	16,434.49	10,355.27	92.66	109.24	10.95	5,837.86	-435.05	929.90	828.47	101.43	9.168		
16,800.00	11,268.00	16,530.31	10,357.23	93.96	110.86	11.01	5,933.66	-434.75	928.00	825.05	102.95	9.014		
16,900.00	11,268.00	16,643.76	10,360.38	95.27	112.77	11.08	6,047.06	-434.55	925.34	820.79	104.55	8.851		
17,000.00	11,268.00	16,739.65	10,363.62	96.58	114.38	11.15	6,142.90	-434.33	922.14	816.04	106.09	8.692		
17,100.00	11,268.00	16,824.35	10,365.50	97.90	115.80	11.24	6,227.57	-433.46	920.21	812.59	107.63	8.550		
17,177.54	11,268.00	16,891.65	10,366.05	98.92	116.94	11.30	6,294.87	-432.79	919.78	810.98	108.80	8.454		
17,200.00	11,268.00	16,910.91	10,366.06	99.22	117.27	11.31	6,314.12	-432.65	919.82	810.68	109.14	8.428		
17,300.00	11,268.00	16,998.14	10,365.32	100.54	118.75	11.39	6,401.34	-431.55	920.94	810.29	110.64	8.323		
					400.54		8 505 24	420 51	022 64	810.30	112 25	8 220		
17,400.00	11,268.00	17,102.05	10,363.80	101.87	120.51	11.45	6,503.24	-430.51	922.04	800.12	113 88	8 105		
17,500.00	11,268.00	17,211.76	10,363.56	103.20	122.37	11.51	6,014.93	429.04	922.99	809.12	115.00	7 997		
17,600.00	11,268.00	17,313.44	10,363.22	104.53	124.09	11.00	6,710.01	420.01	022.05	905.01	117.00	7 893		
17,700.00	11,268.00	17,416.32	10,363.99	105.87	125.64	11.04	0,019.49	-420.27	923.00	005.51	117.00	7.966		
17,715.88	11,268.00	17,430.05	10,364.03	106.08	126.08	11.65	6,833.22	-426.20	922.90	603.65	117.55	7.000		
17 800 00	11 268 00	17 499 85	10 363.69	107.21	127.27	11.69	6.903.01	-427.67	923.58	805.00	118.58	7.789		
17 900.00	11 268 00	17.594.62	10 361 64	108.55	128.88	11.75	6.997.75	-426.48	925.97	805.83	120.15	7.707		
18 000 00	11,268.00	17,707,60	10,360,82	109.89	130.78	11.85	7,110.72	-424.99	926.96	805.08	121.88	7.606		
18 100 00	11 268 00	17 792 91	10 360.17	111.24	132.22	11.95	7,196,01	-423.50	928.18	804.74	123.44	7.519		
18,200.00	11.268.00	17.877.88	10.357.60	112.59	133.66	12.04	7,280.93	-421.77	931.58	806.61	124.96	7.455		
	,													
18,300.00	11,268.00	17,977.80	10,354.11	113.94	135.36	12.13	7,380.76	-419.68	935.49	808.86	126.63	7.388		
18,313.53	11,268.00	17,991.32	10,353.64	114.13	135.59	12.15	7,394.27	-419.39	936.02	809.16	126.86	7.379		



Pro Directional Anticollision Report



Offset Site Error:

0.00 usft

Devon Energy Corp. Company: Eddy County, NM (NAD83) Project: Big Sinks Draw 25-24 **Reference Site:** 0.00 usft Site Error: **Reference Well:** 331H Well Error: 0.00 usft он **Reference Wellbore** Prelim Plan **Reference Design:**

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference:

Well 331H

GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset Design Big Sinks Draw 25-24 - 521H - OH - Prelim Plan

Reference Offset Semi Major Axis Distance Distance Measured Vertical Reference Offset Highslds Offset Wellbore Centre Between Between Between Between Minimum Sep Depth Depth Depth Depth Depth (usft) (usft) Centre Ellipses Separation F 0.00 0.00 0.00 0.00 0.00 -0.16 149.96 -0.41 149.96 149.70 0.27 5 100.00 100.00 100.00 0.00 0.49 -0.16 149.96 -0.41 149.96 148.98 0.98 -0.27 5 200.00 200.00 200.00 0.49 0.49 -0.16 149.96 -0.41 149.96 148.98 0.98 -0.27 5 300.00 300.00 300.00 0.85 0.85 -0.16 149.96 -0.41 149.96 148.26 1.70 400.00 400.00 400.00 <th>ation Warning tor 5.314 2.676 3.256 2.067 7.864 8.951 2.836 8.881 4.990 2.323</th>	ation Warning tor 5.314 2.676 3.256 2.067 7.864 8.951 2.836 8.881 4.990 2.323
Messeure vertical Messeure Vertical Reference Ornset Highside Offset Wellbore Centre Between Be	Auton Warning 5.314 2.676 3.256 2.067 7.864 8.951 2.836 8.381 4.990 2.323
(usft) (usft)<	5.314 2.676 3.256 2.067 7.864 8.951 2.836 8.381 4.990 2.323
0.00 0.00 0.00 0.00 -0.16 149.96 -0.41 149.96 100.00 100.00 100.00 100.00 0.13 0.13 -0.16 149.96 -0.41 149.96 149.96 200.00 200.00 200.00 200.00 0.49 0.49 -0.16 149.96 -0.41 149.96 148.98 0.98 300.00 300.00 300.00 0.85 0.85 -0.16 149.96 -0.41 149.96 148.28 1.70 400.00 400.00 400.00 1.21 1.21 -0.16 149.96 -0.41 149.96 148.28 1.70 400.00 500.00 0.85 0.85 -0.16 149.96 -0.41 149.96 147.54 2.42	5.314 2.676 3.256 2.067 7.864 9.951 2.836 8.381 4.990 2.323
0.00 0.00 0.00 0.00 0.00 0.00 149.96 -0.41 149.96	5.314 2.676 3.256 2.067 7.864 9.951 2.836 8.381 4.990 2.323
100.00 100.00<	2.376 3.256 2.067 7.864 8.951 2.836 8.381 4.990 2.323
200.00 200.00 200.00 200.00 0.49 0.49 -0.18 149.96 -0.41 149.96 148.26 0.30 300.00 300.00 300.00 300.00 0.85 0.85 -0.16 149.96 -0.41 149.96 148.26 1.70 400.00 400.00 400.00 400.00 1.21 1.21 -0.16 149.96 -0.41 149.96 147.54 2.42	2.556 2.067 7.864 8.951 2.836 8.381 4.990 2.323
400.00 400.00 400.00 400.00 1.21 1.21 -0.16 149.96 -0.41 149.96 147.54 2.42	2.067 7.864 2.836 8.381 4.990 2.323
	8.951 2.836 8.381 4.990 2.323
i matta matta matta 100000 100000 100 100 100 100 100 100	8.951 2.836 8.381 4.990 2.323
	8.951 2.836 8.381 4.990 2.323
600.00 600.00 600.00 600.00 1.92 1.92 -0.16 149.96 -0.41 149.96 146.11 3.85	2.836 8.381 4.990 2.323
700.00 700.00 700.00 700.00 2.28 2.28 -0.16 149.96 -0.41 149.96 145.39 4.57	8.381 4.990 2.323
800.00 800.00 800.00 800.00 2.64 2.64 -0.16 149.96 -0.41 149.98 144.68 5.28	4.990 2.323
900.00 900.00 900.00 900.00 3.00 3.00 -0.16 149.96 -0.41 149.96 143.96 6.00	2.323
1,000.00 1,000.00 1,000.00 1,000.00 3.36 3.36 -0.16 149.96 -0.41 149.96 143.24 6.72	
	. 196
	0.196
1,200,00 1,199,99 1,199,99 1,199,98 4,06 4,05 74,78 149,96 -2,16 149,51 141,40 8,11	8.434
1,300,00 1,299,97 1,299,99 1,299,95 4,41 4,40 74,75 149,96 -4,54 148,94 140,14 6,61	0.913 5.504
1,400,00 1,399,92 1,399,98 1,399,90 4,76 4,75 74,71 149,96 -7,39 148,15 1,36,64 9,51	0.004
1,500,00 1,499,84 1,499,97 1,499,81 5.11 5.10 74,66 149,96 -11.32 147.13 130,92 10.21	4.410
1 600 00 1 599 73 1 599 95 1 599 68 5 47 5 45 74 60 149 96 -16.11 145.89 134.97 10.92	3.362
1700.00 1699.56 1699.93 1699.50 5.82 5.81 74.53 149.96 -21.78 144.42 132.79 11.63	2.418
1.800.00 1.799.35 1.800.10 1.799.26 6.18 6.16 74.44 149.96 -28.32 142.72 130.38 12.35	1.560
1,900.00 1,899.11 1,900.11 1,898.99 6.54 6.52 74.35 149.96 -35.29 140.91 127.84 13.06	0.785
2,000.00 1,998.86 2,000.13 1,998.73 6,90 6.88 74.25 149.96 -42.27 139.10 125.31 13.79	0.089
2,100.00 2,098.62 2,100.15 2,098.47 7.27 7.24 74.14 149.96 -49.24 137.28 122.77 14.51	9.461
2,200.00 2,198.37 2,200.16 2,198.21 7.63 7.61 74.04 149.96 -56.22 135.47 120.24 15.24	8.892
2,300.00 2,298.13 2,300.18 2,297.95 7.99 7.97 73.93 149.96 -63.19 133.66 117.70 15.96	8.374
2,400.00 2,397.88 2,400.20 2,397.69 8.36 8.33 73.82 149.96 -70.16 131.85 115.16 16.69	7.900
2,500.00 2,497.64 2,500.21 2,497.43 8.72 8.70 73.71 149.96 -77.14 130.04 112.62 17.42	7.465
2 600 00 2 507 30 2 600 23 2 507 17 9 09 9 06 73 50 149 98 -84 11 128 23 110 08 18 15	7 065
2,000,00 2,007,15 2,000,25 2,006,01 0,45 0,43 7,347 140,96 -01.06 120,62 10,754 18,88	6,696
2,800,00 2,004,00 2,000,00 2,000,01 0,00 0,00 10,00 10,00 10,00 10,00 10,00 10,00 10,00 10,00 10,00 10,00 10,00	6.354
2 900 00 2 896 66 2 900 28 2 896 39 10 19 10 16 73 22 149 96 -105.04 122.81 102.46 20.35	6.036
3,000,00 2,996,41 3,000,30 2,996,13 10,55 10,53 73,09 149,96 -112,01 121,00 99,92 21,08	5.740
3,100.00 3,096.17 3,100.31 3,095.87 10.92 10.90 72.95 149.96 -118.99 119.19 97.38 21.81	5.465
3,200.00 3,195.92 3,200.33 3,195.61 11.29 11.26 72.81 149.96 -125.96 117.39 94.84 22.55	5.206
3,300.00 3,295.68 3,300.35 3,295.35 11.65 11.63 72.67 149.96 -132.93 115.58 92.30 23.28	4.965
3,400.00 3,395.43 3,400.36 3,395.09 12.02 12.00 72.52 149.96 -139.91 113.78 89.76 24.02	4.738
3,500.00 3,495.19 3,500.38 3,494.83 12.39 12.37 72.37 149.96 -146.88 111.98 87.22 24.75	4.524
3 600 00 3 594 94 3 600 40 3 594 57 12 76 12 73 72 21 149 96 -153 86 110 17 84 68 25 49	4.323
3 700 00 3 664 70 3 700 41 3 654 31 13 13 13 10 72 04 149 66 -166 83 108 37 82 15 26 22	4.132
3800.00 3794.45 3800.43 3794.05 1349 1347 71.87 149.96 -167.81 106.57 79.61 26.96	3.953
3,900,00 3,894,21 3,900,45 3,893,79 13,86 13,84 71,70 149,96 -174,78 104,77 77,07 27,70	3.783
4,000,00 3,993,96 4,000,46 3,993,53 14,23 14,21 71.52 149,96 -181.76 102.97 74.54 28.43	3.621
4,100.00 4,093.72 4,100.48 4,093.27 14.60 14.58 71.33 149.96 -188.73 101.17 72.00 29.17	3.468
4,200.00 4,193.47 4,200.50 4,193.01 14.97 14.95 71.14 149.96 -195.70 99.38 69.47 29.91	3.323
4,300.00 4,293.23 4,299.49 4,292.75 15.34 15.31 70.93 149.96 -202.68 97.58 66.94 30.64	3.184
4,400.00 4,392.99 4,399.34 4,392.29 15.71 15.68 70.21 149.96 -210.50 95.88 64.47 31.38	3.054
4,500.00 4,492.74 4,499.12 4,491.61 16.08 16.06 68.41 149.96 -220.05 94.33 62.21 32.12	2.936
	2 834
9,000,00 9,052,50 9,001,21 9,590,05 10,45 10,50 05,51 149,956 -2,31,31 93,17 60,29 32,87 4 700,0 4,600,2 4,500,77 (6.6) (6.6) (6.6) (7.6)	2.004
v,/vu,vu v,uzz,zu 4,/vu,30 4,005,// 10,01 10,03 02,10 149,90 -243,30 92,41 05,80 33,01 4,00,0 12,04 02,04 03,001 34,00 0,05 0,00 0,00 0,00 0,00 0,00 0,00	2.73
-γ,000,00 -γ,722,01 - 9,001,02 - 9,1000,03 - 17,10 - 17,22 - 20,03 - 193,370 - 223,22 - 91,373 - 37,104 - 24,37 Α 375,46 - 4 362,79 - 4 375 - 4 37, 10 - 17,40 - 24, 30 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	2.634.00
	2 621
5,000.00 4,991.52 5,001.83 4,987.14 17.92 17.99 51.71 149.96 -279.27 92.15 56.35 35.81	2.574
CC . Min centre to center distance or covergent point SE - min separation factor ES - min ellipse sens	ation



Anticollision Report



Offset Site Error:

0.00 usft

Devon Energy Corp. Company: Eddy County, NM (NAD83) Project: Big Sinks Draw 25-24 **Reference Site:** 0.00 usft Site Error: **Reference Well:** 331H 0.00 usft Well Error: он **Reference Wellbore Reference Design:** Prelim Plan

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference: Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset Design Big Sinks Draw 25-24 - 521H - OH - Prelim Plan

Survey Prog	ram: 0-	MWD+HDGM											Offset Well Error:	0.00 usft
Refere	ence	Offse	it	Semi Major	Axis			. .	Dista	nce				
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellborg	Centre	Between	Between	Minimum Secondia	Separation	Warning	
Depth (ust)	Depth (unft)	Depth	Depth (ueft)	(ue #)	(uaft)	100178C8	+N/-S	+E/-₩	Centres (usft)	(usft)	Separation (usft)	Factor		
(usn)	lasid	feard	(usit)	(usit)	(usii)	.,	(usn)	(usn)	(2311)	(0011)	(001)			
5,100.00	5,091.2	7 5,101.98	5,086.26	18.29	18.37	48.28	149.96	-291.26	92.74	56.22	36.53	2.539 ES		
5,200.00	5,191.0	3 5,202.14	5,185.38	18.66	18.76	44.90	149.96	-303.25	93.66	56.42	37.24	2.515		
5,300.00	5,290.7	8 5,302.30	5,284.50	19.03	19.14	41.60	149.96	-315.24	94.89	56.94	37.95	2.500		
5,400.00	5,390.5	4 5,397.55	5,383.62	19.40	19.51	38.39	149.96	-327.23	96.44	57.80	38.64	2.496		
5,500.00	5,490.2	9 5,502.61	5,482.75	19.77	19.92	35.30	149.96	-339.22	98.27	58.91	39.37	2.496		
5,600.00	5,590.0	5 5,602.76	5,581.87	20.14	20.31	32.32	149.96	-351.21	100.39	60.32	40.07	2.505		
5 700 00	5 880 8	0 570292	5 680 99	20.51	20.70	29 48	149 96	-363 21	102 76	61 99	40.77	2.521		
5 800 00	5 789 5	6 5 803 07	5 780 11	20.88	21.08	26.76	149.96	-375.20	105.38	63.91	41,47	2.541		
5,900.00	5.889.3	1 5.903.23	5.879.23	21.25	21.47	24.19	149.96	-387.19	108.22	66.05	42.17	2.566		
6.000.00	5,989.0	7 6.003.39	5.978.35	21.62	21.86	21.75	149.96	-399.18	111.26	68.39	42.87	2.595		
6,100.00	6.088.8	2 6.103.54	6.077.48	21.99	22.25	19.45	149.96	-411.17	114.50	70.93	43.57	2.628		
6,200.00	6,188.5	8 6,203.70	6,176.60	22.36	22.64	17.27	149.96	-423.16	117.91	73.64	44.27	2.663		
6,300.00	6,288.3	3 6,303.85	6,275.72	22.73	23.03	15.22	149.96	-435.15	121.49	76.51	44.98	2.701		
6,400.00	6,388.0	9 6,404.01	6,374.84	23.10	23.42	13.29	149.96	-447.14	125.21	79.53	45.68	2.741		
6,500.00	6,487.8	4 6,495.84	6,473.96	23.47	23.78	11.47	149.96	-459.13	129.06	82.71	46.35	2.784		
6,600.00	6,587.6	6,604.32	6,573.08	23.84	24.20	9.76	149.96	-471.12	133.04	85.95	47.09	2.825		
6 700.00	6 607 7	6 6 704 40	6 673 34	24.24	24 50	0 1E	140.06	403 11	137 12	80 22	47 80	2 869		
6,00,00	6 707 4	0,704.48	6 771 23	24.21	24.59 24.05	GI.0 A A A	143.30	-405.11	141 32	09.33 Q2 RA	47.00	2 915		
6,000.00	6 006 0	6 6 805 21	6 970 45	24.36	24.50	5.21	149.90	-507.09	145.60	96.41	49.40	2 960		
7 000 00	6 086 6	2 7 004 04	6 969 57	29.50	25.76	3.86	149.96	-519.08	149.97	100.04	49.93	3 003		
7,000.00	7 086 3	12 7,004.54	7 069 60	25.52	26.16	2.59	149.96	-531.07	154.42	103.77	50.65	3 049		
7,100.00	7,000.0	0 7,105.10	7,000.03	25.05	20.10	2.55	143.30	-001.01				0.0.0		
7,200.00	7,186.1	3 7,205.25	7,167.81	26.06	26.55	1.40	149.96	-543.06	158.93	107.57	51.36	3.094		
7,300.00	7,285.6	9 7,294.87	7,267.22	26.43	26.90	0.26	149.96	-555.07	163.51	111.47	52.04	3.142		
7,400.00	7,385.6	4 7,397.64	7,369.37	26.80	27.30	-0.74	149.96	-566.32	167.11	114.31	52.80	3.165		
7,500.00	7,485.4	0 7,500.53	7,471.82	27.17	27.69	-1.56	149.96	-575.73	169.01	115.47	53.55	3.156		
7,600.00	7,585.1	5 7,603.47	7,574.48	27.54	28.07	-2.23	149.96	-583.31	169.20	114.92	54.28	3.117		
7,700.00	7,684.9	91 7,706.40	7,677.25	27.91	28.44	-2.76	149.96	-589.05	167.64	112.65	55.00	3.048		
7,800.00	7,784.6	6 7,809.25	7,780.03	28.28	28.81	-3.17	149.96	-592.93	164.35	108.65	55.70	2.951		
7,900.00	7,884.4	2 7,911.96	7,882.72	28.65	29.17	-3.46	149.96	-594.97	159.31	102.92	56.39	2.825		
8,000.00	7,984.1	8,013.42	7,984.17	29.02	29.51	-3.65	149.96	-595.31	152.65	95.58	57.07	2,0/0		
8,100.00	8,083.9	3 8,113.17	8,083.93	29.39	29.84	-3.83	149.96	-595.31	145.67	87.91	57.70	2.522		
8,200.00	8,183.6	8 8.212.93	8.183.68	29.76	30,18	-4.02	149.96	-595.31	138.69	80.23	58.46	2.372		
8,300.00	8.283.4	4 8.311.02	8.281.75	30.13	30.50	-3.73	151,14	-595.31	131.96	72.77	59.19	2.229		
8,400.00	8,383.1	9 8,404.74	8,374.37	30.50	30.81	2.04	164.75	-595.35	128.63	68.64	59.99	2.144		
8,401.57	8,384.7	6 8,406.18	8,375.77	30.51	30.82	2.18	165.07	-595.35	128.63	68.63	60.00	2.144 SF		
8,500.00	8,482.9	8,492.43	8,457.95	30.87	31.08	12.99	190.99	-595.43	133.93	73.50	60.43	2.216		
						* - ·-								
8,600.00	8,582.7	ru 8,571.05	8,528.71	31.24	31.31	25.19	225.11	-595.53	154.23	94.71	59.53	2.591		
8,700.00	8,682.4	8,639.48	8,586.00	31.61	31.48	35.36	262.45	-595.63	191.68	134.52	57.16	J.JDJ A A7E		
8,800.00	8,782.2	8,700.00	8,632.65	31.98	31.63	42.95	300.97	-595./5	243.00	169.22	: 04,44 : 5167	4.475		
0,900.00	9 091 7	7 9,790,00	9 603 67	32.33	31.73	46.03	356.50	-595.05	376.93	327 90	, 31.0, 1 49.03	7 688		
5,000.00	0,501.7	2 0,705.05	0,033.07	52.72	51.01	57.41	300.33	-000.00	510.55	021.00	40.00	1.000		
9,100.00	9,081.4	8 8,825.34	8,714.98	33.09	31.88	53.97	395.15	-596.02	453.13	406.12	47.02	9.638		
9,200.00	9,181.2	8,850.00	8,728.65	33.46	31.93	55.52	415.67	-596.08	533.64	488.64	45.01	11.857		
9,300.00	9,280.9	8,881.97	8,745.03	33.84	31.99	57.29	443.12	-596.16	617.27	573.25	5 44.02	14.021		
9,400.00	9,380.7	74 8,900.00	8,753.59	34.21	32.02	58.18	458.99	-596.20	703.51	660.78	42.73	16.465		
9,500.00	9,480.5	50 8,924.31	8,764.33	34.58	32.07	59.27	480.79	-596.26	791.67	749.60	42.08	18.816		
9,600.00	9,580.2	25 8,950.00	8,774.66	34.95	32.13	60.31	504.31	-596.33	881.58	839.88	41.69	21.144		
9,700.00	9,680.0	01 8,950.00	8,774.66	35.32	32.13	60.31	504.31	-596.33	972.64	932.02	40.63	23.942		
9,800.00	9,779.7	76 8,970.36	8,782.09	35.69	32.17	61.06	523.27	-596.39	1,064.76	1,024.33	3 40.43	26.338		
9,900.00	9,879.5	52 8,982.44	8,786.18	36.06	32.20	61.47	534.63	-596.42	1,157.83	1,117.73	2 40.11	28.867		
10,000.00	9,979.2	28 9,000.00	8,791.69	36.43	32.25	62.03	551.30	-596.47	1,251.72	1,211.68	3 40.04	31.263		
10 100 00	10.070	17 0 000 00	8 704 60	30 00	22.25	64.74	EE 4 30	_E06 47	1 344 33	1 206 5	,	20.02		
10,100.00	10,079.0	n a,000.00	0,191.09	30.80	32.25	09.24	051.30	-390.47	1,340.23	1,300.5	39.00	JJ.940		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Offset Site Error:

0.00 usft

Devon Energy Corp. Company: Eddy County, NM (NAD83) Project: Big Sinks Draw 25-24 **Reference Site:** Site Error: 0.00 usft **Reference Well:** 331H 0.00 usft Well Error: **Reference Wellbore** он Prelim Plan **Reference Design:**

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference: Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset Design Big Sinks Draw 25-24 - 521H - OH - Prelim Plan

Survey Progr	am: 0-1	WD+HDGM											Offset Well Error:	0.00 usft
Refere	INCO	Offset		Semi Major	Axis			_	Dista	nce				
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellborg	Centre	Between	Between	Minimum	Separation	Warning	
Depth (usft)	Jepin (usft)	Lepin (usfi)	(usft)	(បនដី)	(usft)	roomace (°)	+N/-S	+E/-W	(usft)	(usft)	(usft)	Factor		
((,	(,	(,		(.,	(usit)	(usit)						
10,200.00	10,178.96	9,000.00	8,791.69	37.16	32.25	67.16	551.30	-596.47	1,441.70	1,402.28	39.42	36.576		
10,300.00	10,278.92	9,019.50	8,797.22	37.52	32.30	70.67	570.01	-596.52	1,537.47	1,497.85	39.62	38.806		
10,400.00	10,378.91	9,026.50	8,799.04	37.87	32.32	74.20	576.77	-596.54	1,633.92	1,594.27	39.65	41.212		
10,500.00	10,478.91	9,050.00	8,804.57	38.21	32.38	-0.17	599.60	-596.61	1,731.09	1,691.11	39.98	43.300		
10,600.00	10,578.91	9,050.00	8,804.57	38.55	32.38	-0.17	599.60	-596.61	1,827.99	1,788.01	39.97	45.730		
10,700.00	10,678.91	9,050.00	8,804.57	38.89	32.38	-0.17	599.60	-596.61	1,925.20	1,885.19	40.01	48.113		
10,800,00	10.778.61	9.050.00	8.804.57	39.23	32.38	0.00	599.60	-596.61	2.021.07	1.981.04	40.03	50.488		
10,900,00	10.875.77	9.050.00	8.804.57	39.57	32.38	0.00	599.60	-596.61	2,111.46	2,071.53	39.93	52.877		
11.000.00	10.967.44	9.071.43	8.808.79	39.89	32.44	0.00	620.61	-596.67	2,193.90	2,153.93	39.97	54.890		
11,100.00	11.050.83	9,100.00	8.813.19	40.18	32.53	0.00	648.84	-596.75	2.267.21	2,227.23	39.98	56.703		
11,200.00	11,123,41	9,100.00	8.813.19	40.45	32.53	0.00	648.84	-596.75	2,329.16	2,289.46	39.69	58.678		
-														
11,300.00	11,182.98	9,100.00	8,813.19	40.71	32.53	0.00	648.84	-596.75	2,379.63	2,340.20	39.43	60.343		
11,400.00	11,227.72	9,150.00	8,817.48	40.98	32.70	0.00	698.64	-596.89	2,416.70	2,377.18	39.52	61.152		
11,500.00	11,256.27	9,150.00	8,817.48	41.29	32.70	0.00	698.64	-596.89	2,440.13	2,400.77	39.36	61.996		
11,600.00	11,267.77	9,174.29	8,818.00	41.62	32.78	0.00	722.92	-596.96	2,449.78	2,410.38	39.40	62.171		
11,700.00	11,268.00	9,268.20	8,818.00	41.98	33.15	0.00	816.83	-597.23	2,450.00	2,410.26	39.74	61.654		
11 800 00	11 269 00	0.269.20	8 818 00	42.39	33.50	0.00	016 83	-507 52	2 450 00	2 409 85	40 15	61 025		
11,800.00	11 269 00	9,308.20	0,010.00	42.30	33.39	0.00	1 016 83	-597.52	2,450.00	2,403.03	40.13	60 323		
12,000,00	11 269 00	9,408.20	9 919 00	42.03	34.64	0.00	1 116 83	-598 10	2,450.00	2 408 86	40.01	59 557		
12,000.00	11 268 00	0 668 20	9,010.00	43.55	35.24	0.00	1 216 82	-508 30	2,450.00	2 408 29	41.14	58 734		
12,100.00	11 268 00	9,008.20	8 818 00	45.00	35.89	0.00	1 316 82	-598.67	2 450 00	2 407 66	42.34	57.864		
12,200.00	11,200.00	5,100.20	0,010.00	44.40	00.00	0.00	1,010.02	000.01	2,100.00	2,				
12,300.00	11,268.00	9,868.20	8,818.00	45.05	36.59	0.00	1,416.82	-598.96	2,450.00	2,406.98	43.02	56.955		
12,400.00	11,268.00	9,968.20	8,818.00	45.70	37.33	0.00	1,516.82	-599.25	2,450.00	2,406.26	43.74	56.015		
12,500.00	11,268.00	10,068.20	8,818.00	46.38	38.10	0.00	1,616.82	-599.54	2,450.00	2,405.50	44.50	55.052		
12,600.00	11,268.00	0 10,168.20	8,818.00	47.10	38.92	0.00	1,716.82	-599.83	2,450.00	2,404.69	45.31	54.071		
12,700.00	11,268.00	10,268.20	8,818.00	47.86	39.77	0.00	1,816.82	-600.12	2,450.00	2,403.84	46.16	53.080		
12,800.00	11,268.00	0 10,368.20	8,818.00	48.64	40.66	0.00	1,916.82	-600.40	2,450.00	2,402.96	47.04	52.084		
12,900.00	11,268.00	0 10,468.20	8,818.00	49.46	41.57	0.00	2,016.82	-600.69	2,450.00	2,402.04	47.96	51.087		
13,000.00	11,268.00	0 10,568.20	8,818.00	50.30	42.52	0.00	2,116.82	-600.98	2,450.00	2,401.09	48.91	50.094		
13,100.00	11,268.00	0 10.668.20	8,818.00	51.17	43.49	0.00	2,216.82	-601.27	2,450.00	2,400.11	49.89	49.109		
13,200.00	11,268.00	0 10,768.20	8,818.00	52.06	44.49	0.00	2,316.82	-601.56	2,450.00	2,399.10	50.90	48.134		
13.300.00	11,268.00	0 10.868.20	8.818.00	52.98	45.52	0.00	2,416.82	-601.85	2,450.00	2,398.06	51.94	47.172		
13,400.00	11.268.00	0 10.968.20	8.818.00	53.93	46.56	0.00	2.516.82	-602.13	2,450.00	2,397.00	53.00	46.226		
13,500.00	11,268.00	0 11,068.20	8,818.00	54.89	47.63	0.00	2,616.82	-602.42	2,450.00	2,395.91	54.09	45.296		
13,600.00	11,268.0	11,168.20	8,818.00	55.88	48.72	0.00	2,716.82	-602.71	2,450.00	2,394.80	55.20	44.385		
13,700.00	11,268.0	0 11,268.20	8,818.00	56.88	49.82	0.00	2,816.82	-603.00	2,450.00	2,393.67	56.33	43.494		
13,800.00	11,268.0	0 11,368.20	8,818.00	57.91	50.94	0.00	2,916.82	-603.29	2,450.00	2,392.52	57.48	42.622		
13,900.00	11,268.0	D 11,468.20	8,818.00	58.95	52.08	0.00	3,016.82	-603.58	2,450.00	2,391.35	58.65	41.771		
14,000.00	11,268.0	0 11,568.20	8,818.00	60.01	53.23	0.00	3,116.82	-603.86	2,450.00	2,390.16	59.84	40.941		
14,100.00	11,268.0	0 11,668.20	8,818.00	61.08	54.40	0.00	3,210.82	-004.13	2,450.00	2,300.93	61.03	40.133		
14,200.00	11,268.0	J 11,768.2U	8,818.00	62.17	55.58	0.00	3,310.02	-004.44	2,450.00	2,307.73	02.27	35.340		
14,300.00	11.268.0	0 11.868.20	8.818.00	63.27	56.77	0.00	3,416.82	-604.73	2,450.00	2,386.50	63.51	38.580		
14,400.00	11,268.0	0 11,968.20	8,818.00	64.39	57.98	0.00	3,516.82	-605.02	2,450.00	2,385.24	64.76	37.835		
14,500.00	11,268.0	0 12,068.20	8,818.00	65.52	59.19	0.00	3,616.81	-605.31	2,450.00	2,383.98	66.02	37.110		
14,600.00	11,268.0	0 12,168.20	8,818.00	66.67	60.42	0.00	3,716.81	-605.59	2,450.00	2,382.70	67.30	36.406		
14,700.00	11,268.0	0 12,268.20	8,818.00	67.82	61.65	0.00	3,816.81	-605.88	2,450.00	2,381.42	68.58	35.722		
14,800.00	11,268.0	0 12,368.20	8,818.00	68.99	62.90	0.00	3,916.81	-606.17	2,450.00	2,380.12	69.88	35.058		
14,900.00	11,268.0	0 12,468.20	8,818.00	70.16	64.15	0.00	4,016.81	-606.46	2,450.00	2,378.81	71,19	34.413		
15,000.00	11,268.0	0 12,568.20	8,818.00	71.35	65.41	0.00	4,116.81	-606.75	2,450.00	2,377.49	72.51	33.786		
15,100.00	11,268.0	12,668.20	8,818.00	72.54	66.68	0.00	4,216.81	-607.04	2,450.00	2,376.16	73.84	33.178		
15,200.00	11,268.0	U 12,768.20	8,818.00	73.75	67.95	0.00	4,316.81	-607.32	2,450.00	2,374.82	75.18	32.587		
15,300.00	11,268 0	0 12,868.20	8,818.00	74,96	69.23	0.00	4.416.81	-607.61	2,450.00	2,373.47	76.53	32.013		
			-,		50.20	0.00	.,		_,	_,				
			CC - Min	centre to ce	enter dista	ance or cove	rgent point, SI	- min sep	aration fac	tor, ES - n	nin ellipse s	separation		



Anticollision Report



Offset Site Error:

0.00 usft

Devon Energy Corp. Company: Eddy County, NM (NAD83) Project: Big Sinks Draw 25-24 **Reference Site:** Site Error: 0.00 usft 331H **Reference Well:** 0.00 usft Well Error: **Reference Wellbore** ОН **Reference Design:** Prelim Plan

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference: Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset Design Big Sinks Draw 25-24 - 521H - OH - Prelim Plan

Survey Progr	am: 0-N	WD+HDGM											Offset Well Error:	0.00 usft
Refere	Reference Offset				Axis				Dista	nce				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Tootface	Offset Wellbor +N/-S	e Centre +E/-W	Between Centres	Setween Ellipses	Minimum Separation	Separation Factor	Warning	
(tiati)	(usft)	(usft)	(usft)	(usft)	(usft)	(*)	(usft)	(usft)	(usit)	(usft)	(usft)			
15,400.00	11,268.00	12,968.20	8,818.00	76.18	70.52	0.00	4,516.81	-607.90	2,450.00	2,372.11	77.8 9	31.456		
15,500.00	11,268.00	13,068.20	8,818.00	77.41	71.82	0.00	4,616.81	-608.19	2,450.00	2,370.75	79.25	30.915		
15,600.00	11,268.00	13,168.20	8,818.00	78.65	73.12	0.00	4,716.81	-608.48	2,450.00	2,369.38	80.62	30.389		
15,700.00	11,268.00	13,268.20	8,818.00	79.89	74.42	0.00	4,816.81	-608.76	2,450.00	2,368.00	82.00	29.878		
15,800.00	11,268.00	13,368.20	8,818.00	81.14	75.74	0.00	4,916.81	-609.05	2,450.00	2,366.62	83.38	29.382		
15,900.00	11,268.00	13,468.20	8,818.00	82.40	77.05	0.00	5,016.81	-609.34	2,450.00	2,365.23	84.77	28.900		
16,000,00	11 268 00	13 568 20	8 8 18 00	83 66	78 37	0.00	5,116,81	-609.63	2.450.00	2.363.83	86.17	28.432		
16 100 00	11 268 00	13 668 20	8.818.00	84.93	79.70	0.00	5.216.81	-609.92	2.450.00	2,362.43	87.57	27.976		
16 200 00	11 268 00	13 768 20	8.818.00	86.21	81.03	0.00	5.316.81	-610.21	2,450.00	2,361.02	88.98	27.534		
16.300.00	11,268.00	13,868,20	8.818.00	87.49	82.38	0.00	5,416.81	-610.49	2,450.00	2,359.60	90.40	27.103		
16,400.00	11,268.00	13.968.20	8.818.00	88.77	83.70	0.00	5,516.81	-610.78	2,450.00	2,358.19	91.81	26.684		
16,500.00	11,268.00	14,068.20	8,818.00	90.07	85.04	0.00	5,616.81	-611.07	2,450.00	2,356.76	93.24	26.277		
16,600.00	11,268.00	14,168.20	8,818.00	91.36	86.38	0.00	5,716.81	-611.36	2,450.00	2,355.33	94.67	25.881		
16,700.00	11,268.00	14,268.20	8,818.00	92.66	67.73	0.00	5,816.81	-611.65	2,450.00	2,353.90	96.10	25.495		
16,800.00	11,268.00	14,368.20	8,818.00	93.96	89.08	0.00	5,916.81	-611.94	2,450.00	2,352.47	97.53	25.120		
16,900.00	11,268.00	14,468.20	8,818.00	95.27	90.43	0.00	6,016.80	-812.22	2,450.00	2,351.03	98.97	24.754		
17 000 00	11 269 00	14 568 20	8 818 00	06 58	61 76	0.00	6 116 80	-612 51	2 450 00	2 349 58	100.42	24.398		
17,000.00	11 269 00	14,508.20	8 818 00	97.90	03.15	0.00	6 216 80	-612.80	2 450 00	2 348 13	101.87	24.051		
17,100.00	11 268 00	14,000.20	8 818 00	99.22	94.51	0.00	6 316 80	-613.09	2,450.00	2.346.68	103.32	23.713		
17 300.00	11 268 00	14,868,20	8 818 00	100 54	95.88	0.00	6 4 16 80	-613.38	2,450.00	2.345.23	104.77	23,384		
17,00.00	11 268 00	14,000.20	8 818 00	101.87	97.24	0.00	6 516 80	-613.67	2 450.00	2 343 77	106.23	23.063		
11,400.00	11,200.00	14,500.20	0,010.00	101.07	01.24	0.00	0,010.00		_,	-,				
17,500.00	11,268.00	15,068.20	8,818.00	103.20	98.61	0.00	6,616.80	-613.95	2,450.00	2,342.31	107.69	22.750		
17,600.00	11,268.00	15,168.20	8,818.00	104.53	99.98	0.00	6,716.80	-614.24	2,450.00	2,340.85	109.15	22.445		
17,700.00	11,268.00	15,268.20	8,818.00	105.87	101.36	0.00	6,816.80	-614.53	2,450.00	2,339.38	110.62	22.148		
17,800.00	11,268.00	15,368.20	8,818.00	107.21	102.73	0.00	6,916.80	-614.82	2,450.00	2,337.91	112.09	21.857		
17,900.00	11,268.00	15,468.20	8,818.00	108.55	104.11	0.00	7,016.80	-615.11	2,450.00	2,336.44	113.56	21.574		
	44.000.00	45 500 00		400.00	105 10	0.00	7 116 80	R15 40	2 460 00	2 224 06	115 04	21 207		
18,000.00	11,268.00	15,568.20	8,818.00	109.89	105.49	0.00	7,110.00	-013.40	2,450.00	2,334.90	118.51	21.257		
18,100.00	11,268.00	15,668.20	0,018.00	111.24	100.8/	0.00	7,210.00	-010.00	2,450.00	2,333.45	117.00	20 764		
18,200.00	11,268.00	15,768.20	0,018.00	112.59	108.20	0.00	7,310.00	-010.97	2,450.00	2,332.01	110.49	20.506		
18,300.00	11,200.00	15,000.20	0,010.00	113.94	109.04	0.00	7,410.00	-010.20	2 450 00	2,000.02	110 68	20.472		
10,313.53	11,200.00	10,001./3	0,010.00	114.13	105.03	0.00	1,430.33	-010.00	2,700.00	2,000.02				






Offset Site Error:

0.00 usft

Well 331H Devon Energy Corp. Company: Local Co-ordinate Reference: GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Eddy County, NM (NAD83) TVD Reference: Project: GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Big Sinks Draw 25-24 MD Reference: **Reference Site:** Grid Site Error: 0.00 usft North Reference: Minimum Curvature Survey Calculation Method: **Reference Well:** 331H 0.00 usft 2.00 sigma Well Error: Output errors are at ОН Database: WellPlanner1 **Reference Wellbore** Reference Datum Prelim Plan Offset TVD Reference: Reference Design:

Big Sinks Draw 25-24 - 531H - OH - Prelm Plan Offset Design

Survey Prog	ram: 0-M	WD+HDGM					Distance						Offset Well Error:	0.00 usft
Refan Measured Depth (usft)	ence Vertical Depth (ust)	Offse Measured Depth (unit)	vertical Depth (ueft)	Semi Major Reference	Offset	Highsida Toolface (*)	Offset Wellbor +N/-S	e Centre +E/-W	Dista Between Centres (usft)	Eetween Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
(usit)	(usit)	(usit)	(uon)	(usit)	(.,	(usn)	(usn)	((4	(
0.00	0.00	0.00	0.00	0.00	0.00	11.14	150.14	29.57	153.02	450 30	0.07	670 BOA		
100.00	100.00	100.00	100.00	0.13	0.13	11.14	150.14	29.57	153.02	152.70	0.27	3/0.004		
200.00	200.00	200.00	200.00	0.49	0.49	11.14	150.14	29.57	153.02	151 33	1 70	90.059		
300.00	300.00	300.00	300.00	0.85	0.65	11,14	100.14	29.57	153.02	150.61	2 4 2	63 335		
400.00	400.00	400.00	400.00	1.21	1.21	11.14	150.14	29.57	153.02	149.89	3 13	48 842		
500.00	500.00	500.00	300.00	1.57	1.57	11,14	150.14	20.01	100.01	140.00	0.10			
600.00	600.00	600.00	600.00	1.92	1.92	11.14	150.14	29.57	153.02	149.17	3.85	39.747		
700.00	700.00	700.00	700.00	2.28	2.28	11.14	150.14	29.57	153.02	148.46	4.57	33.507		
800.00	800.00	800.00	800.00	2.64	2.64	11.14	150.14	29.57	153.02	147.74	5.28	28.961		
900.00	900.00	900.00	900.00	3.00	3.00	11,14	150.14	29.57	153.02	147.02	6.00	25.501		
1,000.00	1,000.00	1,000.00	1,000.00	3.36	3.36	11.14	150.14	29.57	153.02	146.31	6.72	22.779		
1 100 00	1 100 00	1 100 00	1 100 00	3 71	3 72	86.26	150 14	29.57	153.00	145 57	7 43	20.596		
1 200 00	1 199 99	1,100.00	1 199 99	4.06	4.08	86.75	150.14	29.57	152.92	144.78	8.13	18,799		
1 300 00	1 299 97	1 300.03	1 299 97	4.41	4.43	87.57	150.14	29.57	152.81	143.96	8.84	17.281		
1,400.00	1.399.92	1,400.08	1.399.92	4.76	4.79	88.71	150.14	29.57	152.71	143.16	9.55	15.986		
1,500.00	1,499.84	1,499.84	1,499.84	5.11	5.15	90.18	150.14	29.57	152.67	142.41	10.26	14.876		
1,538.88	1,538.68	1,538.83	1,538.83	5.25	5.29	90.82	150.14	29.50	152.67	142.13	10.54	14.466		
1,600.00	1,599.73	1,600.11	1,600.11	5.47	5.50	91.83	150.14	29.13	152.63	141.67	10.97	13.916		
1,700.00	1,699.56	1,700.42	1,700.41	5.82	5.64	93.50	150.14	21.02	102.00	140.03	42.27	13.070		
1,800.00	1,799.35	1,800.77	1,800.73	0.18	0.19	93.16	150.14	20.02	151.02	139.90	13.08	11 616		
1,900.00	1,033.11	1,900.99	1,000.91	0.54	0.54	30.75	150.14	11.01	101.02	100.04	.0.00			
2,000.00	1,998.86	2,000.91	2,000.78	6.90	6.89	98.25	150.14	19.41	151.60	137.82	13.79	10.997		
2,100.00	2,098.62	2,100.83	2,100.64	7.27	7.24	99.76	150.14	16.22	151.40	136.90	14.50	10.444		
2,200.00	2,198.37	2,200.75	2,200.51	7.63	7.59	101.27	150.14	13.02	151.29	136.09	15.21	9.949		
2,246.87	2,245.12	2,247.58	2,247.32	7.80	7.75	101.98	150.14	11.53	151.28	135.74	15.54	9.734 CC		
2,300.00	2,298.13	2,300.67	2,300.38	7.99	7,94	102.78	150.14	9.83	151.30	135.38	15.92	9.504		
2,400.00	2.397.88	2,400.59	2.400.25	8.36	8.29	104.30	150.14	6.64	151.41	134.77	16.63	9.102		
2,500.00	2,497,64	2,500.51	2,500.12	8.72	8.64	105.80	150.14	3.44	151.62	134.27	17.35	8.740		
2,600.00	2,597.39	2,600.43	2,599.99	9.09	8.99	107.31	150.14	0.25	151.94	133.88	18.06	8.411		
2,700.00	2,697.15	2,700.35	2,699.86	9.45	9.35	108.80	150.14	-2.95	152.36	133.58	18.78	8.113		
2,800.00	2,796.90	2,800.27	2,799.73	9.82	9.70	110.29	150.14	-6.14	152.89	133.39	19.50	7.842		
2 000 00	0 000 00	2 000 40	2 800 60	10.10	10.00	111 76	160.14	.0.22	163 62	133.31	20.21	7 595 ES		
2,900.00	2,090.00	2,900.19	2,699.00	10.19	10.00	113.23	150.14	-9.55	154.25	133.32	20.93	7.370		
3 100 00	3 096 17	3 100 03	3.099.34	10.92	10.77	114.67	150.14	-15.72	155.08	133.43	21.65	7.165		
3,200.00	3,195.92	3,199.95	3,199.20	11.29	11.13	116.10	150.14	-18.92	156.01	133.64	22.36	6.976		
3,300.00	3,295.68	3,300.13	3,299.07	11.65	11.48	117.52	150.14	-22.11	157.03	133.95	5 23.08	6.804		
3,400.00	3,395.43	3,400.21	3,398.94	12.02	11.84	118.91	150.14	-25.30	158.15	134.35	23.80	0.040		
3,500.00	3,495.19	3,500.29	3,498.81	12.39	12.20	120.29	150.14	-28.50	159.30	134.04	a 24.51 a 25.25	6 367		
3,000.00	3,394.94	3,000.37	3,090.00	12.70	12.00	121.04	150.14	-31.05	162.05	136.10	25.95	6.245		
3,800.00	3,794.45	3.800.53	3,798.42	13.49	13.27	124.28	150.14	-38.08	163.52	136.86	3 26.67	6.132		
	•••••	-,												
3,900.00	3,894.21	3,900.61	3,898.29	13.66	13.63	125.56	150.14	-41.28	165.08	137.70) 27.38	6.029		
4,000.00	3,993.96	4,000.69	3,998.16	14.23	13.99	126.82	150.14	-44.47	166.72	138.62	2 28.10	5.933		
4,100.00	4,093.72	4,100.77	4,098.03	14.60	14.35	128.05	150.14	-47.66	168.44	139.62	28.82	5.845		
4,200.00	4,193.47	4,200.85	4,197.89	14.97	14.71	129.26	150.14	-50.86	170.24	140.70	J 29.53	5./64		
4,300.00	4,293.23	4,300.93	4,297.76	15.34	15.07	130.44	150.14	-54.05	1/2.11	141.80	30.2	5.069		
4,400.00	4,392.99	4,401.01	4,397.63	15.71	15.42	131.60	150.14	-57.25	174.05	143.08	30.97	5.620		
4,500.00	4,492.74	4,501.09	4,497.50	16.08	15.78	132.73	150.14	-60.44	176.06	144.37	7 31.68	5.557		
4,600.00	4,592.50	4,601.17	4,597.37	16.45	16.14	133.83	150.14	-63.63	178.14	145.74	4 32.40	5.498		
4,700.00	4,692.25	4,701.25	4,697.24	16.81	16.50	134.91	150.14	-66.83	180.28	3 147.10	6 33.12	2 5.444		
4,800.00	4,792.01	4,801.33	4,797.11	17.18	16.86	135.96	150.14	-70.02	182.48	148.6	5 33.83	5.393		
									404 75	450.00		E 947		
4,900.00	4,891.76	4,901.41	4,896.98	17.55	17.22	130.33	150.14	-13.22	104.75	, 150.Z	- 34.5	. 3.341		_

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	Devon Energy Corp.	Local Co-ordinate Reference:	Well 331H	
Project:	Eddy County, NM (NAD83)	TVD Reference:	GL 3332'+KB 26' @ 3358.00usft (Rig TBD)	
Reference Site:	Big Sinks Draw 25-24	MD Reference:	GL 3332'+KB 26' @ 3358.00usft (Rig TBD)	
Site Error:	0.00 usft	North Reference:	Grid	
Reference Well:	³ 331H	Survey Calculation Method:	Minimum Curvature	
Well Error:	0.00 usft	Output errors are at	່ 2.00 sigma	
Reference Wellbore	он	Database:	WellPlanner1	
Reference Design:	Prelim Plan	Offset TVD Reference:	Reference Datum	

Survey Program: Network Program: Depth Offset Vertical Measured Ueft) Distance Measured (usft) Vertical (usft) Measured (usft) Vertical (usft) Reference (usft) Offset (usft) Highside (usft) Offset Wellbore Centre (usft) Depth (usft) Measured (usft) Minimum (usft) Separation (usft) Separation (usft)	Offset Well Error: 0.00 Warning	5.304 5.265 5.228 5.195 5.184	Minimum Sepa Separation Fac (usft)	nce Between Ellipses (usft)	Dista Between Centres	e Centre	Offset Wellbor	utukalda	Axis	Semi Major	et	WD+HDGM Offer	iram: 0-N rence	Survey Prog Refe
Reference Offset Semi Major Axis Distance Distance Measured Depth Vertical (usft) Measured (usft) Vertical (usft) Reference (usft) Offset (usft) Highslde (usft) Offset (usft) Highslde (usft) Offset (usft) Highslde (usft) Measured (usft) Between (usft) Betwee	Warning	5.304 5.265 5.228 5.195 5.164	Minimum Sepa Separation Fac (usft)	nce Between Ellipses (usft)	Dista Between Centres	e Centre	Offset Wellbor	t the balance	Axis	Semi Major	et NoN	Offe	ence	Refe
Measured Depth Vertical (usft) Measured (usft) Vertical (usft) Measured (usft) Vertical (usft) Reference (usft) Offset (usft) Highside (usft) Highside (usft) Offset (usft)	Warning	5.304 5.265 5.228 5.195 5.164	Separation Fai (usft)	Ellipses (usft)	Centres	e Centre	Citriet Wellbor		(168a at					
5,000.00 4,991.52 5,001.49 4,996.85 17.92 17.58 137.99 150.14 -76.41 187.07 151.80 35.27 5.304 5,100.00 5,091.27 5,101.57 5,096.72 18.29 17.94 138.97 150.14 -79.61 189.45 153.47 35.98 5.265 5,200.00 5,191.03 5,201.65 5,198.58 18.66 18.30 139.92 150.14 -82.80 191.88 155.18 36.70 5.228 5,300.00 5,290.78 5,301.73 5,296.45 19.03 18.66 140.85 150.14 -82.80 191.88 155.18 36.70 5.228 5,400.00 5,390.54 5,401.81 5,396.32 19.40 19.02 141.76 150.14 -89.19 194.37 156.95 37.42 5.195 5,400.00 5,490.29 5,501.89 5,496.19 19.77 19.38 142.64 150.14 -89.19 196.90 158.77 38.13 5.164 5,500.00		5.304 5.265 5.228 5.195 5.164			(Ifau)	+E/-W (usft)	+N/-S (usft)	Toolface (*)	(usft)	(usft)	Depth (usft)	Depth (usft)	Vertica! Depth (usft)	Measured Depth (usft)
5,100.00 5,091.27 5,101.57 5,096.72 18.29 17.94 138.97 150.14 -79.61 189.45 153.47 35.98 5.265 5,200.00 5,191.03 5,201.65 5,196.58 18.66 18.30 139.92 150.14 -82.80 191.88 155.18 36.70 5.228 5,300.00 5,290.78 5,301.73 5,296.45 190.3 18.66 140.85 150.14 -85.99 194.37 156.95 37.42 5.195 5,400.00 5,390.54 5,401.81 5,396.32 19.40 19.02 141.76 150.14 -89.19 196.90 158.77 38.13 5.164 5,500.00 5,400.29 5,501.89 5,406.19 19.77 19.38 142.64 150.14 -92.38 199.48 160.63 38.85 5.135		5.265 5.228 5.195 5.164	35.27	151.80	187.07	-76.41	150.14	137.99	17.58	17.92	4,996.85	5,001.49	4,991.52	5,000.00
5,200.00 5,191.03 5,201.65 5,198.58 18.66 18.30 139.92 150.14 -82.80 191.88 155.18 36.70 5.228 5,300.00 5,290.78 5,301.73 5,296.45 19.03 18.66 140.85 150.14 -85.99 194.37 156.95 37.42 5.195 5,400.00 5,390.54 5,401.81 5,396.32 19.40 19.02 141.76 150.14 -89.19 196.90 158.77 38.13 5.164 5,500.00 5,490.29 5,501.89 5,496.19 19.77 19.38 142.64 150.14 -92.38 199.48 160.63 38.85 5.135		5.228 5.195 5.164	35.98	153.47	189.45	-79.61	150.14	138.97	17.94	18.29	5,096.72	5,101.57	5,091.27	5,100.00
5,300.00 5,290.78 5,301.73 5,296.45 19.03 18.66 140.85 150.14 -85.99 194.37 156.95 37.42 5.195 5,400.00 5,390.54 5,401.81 5,396.32 19.40 19.02 141.76 150.14 -89.19 196.90 158.77 38.13 5.164 5,500.00 5,490.29 5,501.89 5,496.19 19.77 19.38 142.64 150.14 -92.38 199.48 160.63 38.85 5.135		5.195 5.164	36.70	155.18	191.88	-82.80	150.14	139.92	18.30	18.66	5,196.58	5,201.65	5,191.03	5,200.00
5,400.00 5,390.54 5,401.81 5,396.32 19.40 19.02 141.76 150.14 -89.19 196.90 158.77 38.13 5.164 5,500.00 5,490.29 5,501.89 5,496.19 19.77 19.38 142.64 150.14 -92.38 199.48 160.63 38.85 5.135		5.164	37.42	156.95	194.37	-85.99	150.14	140.85	18.66	19.03	5,296.45	5,301.73	5,290.78	5,300.00
5,500.00 5,490.29 5,501.89 5,496.19 19.77 19.38 142.64 150.14 -92.38 199.48 160.63 38.85 5.135			38.13	158.77	196.90	-89.19	150.14	141.76	19.02	19.40	5,396.32	5,401.81	5,390.54	5,400.00
		5.135	38.85	160.63	199.48	-92.38	150.14	142.64	19.38	19.77	5,496.19	5,501.89	5,490.29	5,500.00
5,600.00 5,590.05 5,601.97 5,596.06 20.14 19.74 143.50 150.14 -95.58 202.11 162.55 39.57 5.108		5.108	39.57	162.55	202.11	-95.58	150.14	143.50	19.74	20.14	5,596.06	5,601.97	5,590.05	5,600.00
5,700.00 5,689.80 5,702.05 5,695.93 20.51 20.10 144.33 150.14 -98.77 204.78 164.50 40.28 5.084		5.084	40.28	164.50	204.78	-98.77	150.14	144.33	20.10	20.51	5,695.93	5,702.05	5,689.80	5,700.00
5,800.00 5,789.56 5,802.13 5,795.80 20.88 20.46 145.15 150.14 -101.96 207.50 166.50 41.00 5.061		5.061	41.00	166.50	207.50	-101.96	150.14	145.15	20.46	20.88	5,795.80	5,802.13	5,789.56	5,800.00
5,900.00 5,889.31 5,902.21 5,895.67 21.25 20.82 145.94 150.14 -105.16 210.26 168.54 41.72 5.040		5.040	41.72	168.54	210.26	-105.16	150.14	145.94	20.82	21.25	5,895.67	5,902.21	5,889.31	5,900.00
6,000.00 5,989.07 6,002.29 5,995.54 21.62 21.18 146.72 150.14 -108.35 213.05 170.62 42.43 5.021		5.021	42.43	170.62	213.05	-108.35	150.14	146.72	21.18	21.62	5,995.54	6,002.29	5,989.07	6,000.00
6,100.00 6,088.82 6,102.37 6,095.41 21.99 21.54 147.47 150.14 -111.55 215.88 172.73 43.15 5.003		5.003	43.15	172.73	215.88	-111.55	150.14	147.47	21.54	21.99	6,095.41	6,102.37	6,088.82	6,100.00
6,200.00 6,188.58 6,202.45 6,195.27 22.36 21.90 148.20 150.14 -114.74 218.75 174.89 43.87 4.987		4.987	43.87	174.89	218.75	-114.74	150.14	148.20	21.90	22.36	6,195.27	6,202.45	6,188.58	6,200.00
6,300.00 6,288.33 6,302.53 6,295.14 22.73 22.26 148.92 150.14 -117.94 221.66 177.07 44.58 4.972		4.972	44.58	177.07	221.68	-117.94	150.14	148.92	22.26	22.73	6,295.14	6,302.53	6,288.33	6,300.00
6,400.00 6,388.09 6,402.61 6,395.01 23.10 22.62 149.61 150.14 -121.13 224.60 179.29 45.30 4.958		4.958	45.30	179.29	224.60	-121.13	150.14	149.61	22.62	23.10	6,395.01	6,402.61	6,388.09	6,400.00
6,500.00 6,487.84 6,502.69 6,494.88 23.47 22.98 150.29 150.14 -124.32 227.57 181.55 46.02 4.945		4.945	46.02	181.55	227.57	-124.32	150.14	150.29	22.98	23.47	6,494.88	6,502.69	6,487.84	6,500.00
6,600.00 6,587.60 6,602.77 6,594.75 23.84 23.34 150.95 150.14 -127.52 230.57 183.83 46.74 4.933		4.933	46.74	183.83	230.57	-127.52	150.14	150.95	23.34	23.84	6,594.75	6,602.77	6,587.60	6,600.00
6,700.00 6,687.35 6,702.85 6,694.62 24.21 23.70 151.60 150.14 -130.71 233.60 186.14 47.45 4.923		4.923	47.45	186.14	233.60	-130.71	150.14	151.60	23.70	24.21	6,694.62	6,702.85	6,687.35	6,700.00
6,800.00 6,787.11 6,802.93 6,794.49 24.58 24.07 152.22 150.14 -133.91 236.66 188.49 48.17 4.913		4.913	48.17	188.49	236.66	-133.91	150.14	152.22	24.07	24.58	6,794.49	6,802.93	6,787.11	6,800.00
6,900.00 6,886.86 6,903.01 6,894.36 24.95 24.43 152.83 150.14 -137.10 239.75 190.86 48.89 4.904		4.904	48.89	190.86	239.75	-137.10	150.14	152.83	24.43	24.95	6,894.36	6,903.01	6,886.86	6,900.00
7,000.00 6,988.62 6,996.91 6,994.23 25.32 24.76 153.43 150.14 -140.29 242.88 193.27 49.59 4.898		4.898	49.59	193.27	242.86	-140.29	150.14	153.43	24.76	25.32	6,994.23	6,996.91	6,986.62	7,000.00
7,100.00 7,086.38 7,103.17 7,094.10 25.69 25.15 154.01 150.14 -143.49 246.00 195.67 50.33 4.888		4.888	50.33	195.67	246.00	-143.49	150.14	154.01	25.15	25.69	7,094.10	7,103.17	7,086.38	7,100.00
7,200.00 7,186.13 7,203.25 7,193.96 26.06 25.51 154.57 150.14 -146.68 249.18 198.12 51.04 4.881		4.881	51.04	198.12	249.16	-146.68	150.14	154.57	25.51	26.06	7,193.96	7,203.25	7,186.13	7,200.00
7,300.00 7,285.89 7,303.33 7,293.83 28.43 25.87 155.13 150.14 -149.88 252.35 200.59 51.76 4.875		4.875	51.76	200.59	252.35	-149.88	150.14	155.13	25.87	26.43	7,293.83	7,303.33	7,285.89	7,300.00
7,400.00 7,385,64 7,403,41 7,393,70 26.80 26.23 155,66 150.14 -153,07 255,56 203,08 52,48 4.870		4.870	52.48	203.08	255.56	-153.07	150.14	155.66	26.23	26.80	7,393.70	7,403.41	7,385.64	7,400.00
7,500.00 7,485.40 7,503.49 7,493.57 27.17 26.59 156.19 150.14 -156.26 258.79 205.60 53.20 4.865		4.865	53.20	205.60	258.79	-156.26	150.14	156.19	26.59	27.17	7,493.57	7,503.49	7,485.40	7,500.00
7,600.00 7,585.15 7,603.57 7,593.44 27.54 26.95 156.70 150.14 -159.46 262.05 208.13 53.92 4.860		4.860	53.92	208.13	262.05	-159.46	150.14	156.70	26.95	27.54	7,593.44	7,603.57	7,585.15	7,600.00
7,700.00 7,684.91 7,703.65 7,693.31 27.91 27.31 157.20 150.14 -162.65 265.32 210.69 54.63 4.856		4.856	54.63	210.69	265.32	-162.65	150.14	157.20	27.31	27.91	7,693.31	7,703.65	7,684.9	7,700.00
7,800.00 7,784.66 7,803.73 7,793.18 28.28 27.67 157.68 150.14 -165.85 268.61 213.26 55.35 4.853		4.853	55.35	213.26	268.61	-165.85	150.14	157.68	27.67	28.28	7,793.18	7,803.73	7,784.60	7,800.00
7,900.00 7,884.42 7,903.81 7,893.05 28.65 28.03 158.16 150.14 -169.04 271.93 215.85 56.07 4.850		4.850	56.07	215.85	271.93	-169.04	150.14	158.16	28.03	28.65	7,893.05	7,903.81	7,884.42	7,900.00
8,000.00 7,984.17 7,996.11 7,992.92 29.02 28.37 158.62 150.14 -172.24 275.26 218.49 56.76 4.849 S	SF	4.649 SF	56.76	218.49	275.26	-172.24	150.14	158.62	28.37	29.02	7,992.92	7,996.11	7,984.17	8,000.00
8,100.00 8,083.93 8,093.22 8,089.98 29.39 28.72 159.07 150.14 -175.05 278.91 221.45 57.46 4.854		4.854	57.46	221.45	278.91	-175.05	150.14	159.07	28.72	29.39	8,089.98	8,093.22	8,083.93	8,100.00
8,200.00 8,183.68 8,188.40 8,185.16 29.76 29.06 159.52 150.14 -176.33 284.11 225.97 58.15 4.866		4.886	58.15	225.97	284.11	-176.33	150.14	159.52	29.06	29.76	8,185.16	8,188.40	8,183.68	8,200.00
8,300,00 8,283,44 8,286,68 8,283,44 30.13 29.40 159.99 150.14 -176,41 290.59 231.75 58.84 4,939		4.939	58.84	231.75	290.59	-176.41	150.14	159.99	29.40	30.13	8,283.44	8,286.68	8,283.44	8,300.00
8,400.00 8,383.19 8,386.44 8,383.19 30.50 29.74 160.45 150.14 -176.41 297.18 237.63 59.54 4,991		4.991	59.54	237.63	297.18	-176.41	150.14	160.45	29.74	30.50	8,383.19	8,386.44	8,383.19	8,400.00
8,500.00 8,482.95 6,486.19 8,482.95 30.87 30.09 160.90 150.14 -176.41 303.78 243.53 60.25 5.042		5.042	60.25	243.53	303.78	-176.41	150.14	160.90	30.09	30.87	8,482.95	8,486.19	8,482.9	8,500.00
8,600.00 8,582.70 8,583.44 8,580.06 31.24 30.42 160.62 153.84 -176.41 310.66 249.73 60.93 5.099		5.099	60.93	249.73	310.66	-176.41	153.84	160.62	30.42	31.24	8,580.06	8,583.44	8,582.70	8,600.00
8,700.00 8,682.46 8,676.55 8,671.30 31.61 30.74 157.76 171.86 -176.41 319.17 257.62 61.55 5.188		5.186	61.55	257.62	319.17	-176.41	171.86	157.76	30.74	31.61	8,671.30	8,676.55	8,682.4	8,700.00
8,800.00 8,782.21 8,762.35 8,751.79 31.98 31.01 153.02 201.34 -176.41 331.57 269.61 61.99 5.352		5.352	61.96	269.61	331.57	-176.41	201.34	153.02	31.01	31.98	8,751.79	8,762.35	8,782.2	8,800.00
8,900.00 6,881.97 8,838.39 8,818.75 32.35 31.22 147.46 237.26 -176.41 350.93 289.04 61.90 5.670		5.670	61.90	289.04	350.93	-176.41	237.26	147.46	31.22	32.35	8,818.75	8,838.39	6,881.9	8,900.00
9,000.00 8,981.72 8,904.02 8,872.29 32.72 31.39 141.98 275.15 -176.41 379.79 318.66 61.13 6.213		6.213	61.13	318.66	379.79	-176.41	275.15	141.98	31.39	32.72	8,872.29	8,904.02	8,981.72	9,000.00
9,100.00 9,081.48 8,959.86 8,914.18 33.09 31.53 137.06 312.04 -176.41 419.17 359.51 59.66 7.026		7.026	59.66	359.51	419.17	-176.41	312.04	137.06	31.53	33.09	8,914.18	8,959.86	9,081.4	9,100.00
9,200.00 9,181.23 9,007.10 8,946.68 33.46 31.67 132.88 346.31 -176.41 468.67 410.97 57.70 8.122		8.122	57.70	410.97	468.67	-176.41	346.31	132.88	31.67	33.46	8,946.68	9,007.10	9,181.2	9,200.00
9,300.00 9,280.99 9,050.00 8,973.65 33.84 31.81 129.16 379.65 -176.41 527.04 471.36 55.68 9.465		9.465	55.68	471.36	527.04	-176.41	379.65	129.16	31.81	33.84	8,973.65	9,050.00	9,280.9	9,300.00
9,400.00 9,380.74 9,081.03 8,991.57 34.21 31.90 126.55 404.99 -176.41 592.71 539.26 53.45 11.089		11.089	53.45	539.26	592.71	-176.41	404.99	126.55	31.90	34.21	8,991.57	9,081.03	9,380.7	9,400.00
9,500.00 9,480.50 9,110.04 9,007.06 34.58 32.00 124.20 429.51 -176.41 664.28 612.76 51.52 12.893		12.893	51.52	612.76	664.28	-176.41	429.51	124.20	32.00	34.58	9,007.06	9,110.04	9,480.5	9,500.00
9,600.00 9,580.25 9,134.99 9,019.38 34.95 32.08 122.24 451.20 -178.41 740.53 690.70 49.83 14.862		14.862	49.83	690.70	740.53	-176.41	451.20	122.24	32.08	34.95	9,019.38	9,134.99	9,580.2	9,600.00
9,700.00 9,680.01 9,150.00 9,028.33 35.32 32.12 121.10 464.51 -176.41 820.57 772.41 48.16 17.039		17.039	48.16	772.41	820.57	-176.41	464.51	121.10	32.12	35.32	9,026.33	9,150.00	9,680.0	9,700.00
9,800.00 9,779.76 9,175.44 9,037.30 35.69 32.21 119.24 487.46 -176.41 903.45 856.30 47.18 19.158		19.158	47.16	856.30	903.45	-176.41	487.46	119.24	32.21	35.69	9,037.30	9,175.44	9,779.7	9,800.00
9,900.00 9,879.52 9,200.00 9,046.92 36.06 32.29 117.51 510.05 -176.41 988.88 942.51 46.37 21.327		21.327	46.37	942.51	988.68	-176.41	510.05	117.51	32.29	36.06	9,046.92	9,200.00	9,879.5	9,900.00
10,000.00 9,979.28 9,200.00 9,046.92 36.43 32.29 117.51 510.05 -176.41 1,076.14 1,030.99 45.14 23.837		23.837	45.14	1,030.99	1,076.14	-176.41	510.05	117.51	32.29	36.43	9,046.92	9,200.00	9,979.2	10,000.00
10,100.00 10,079.07 9,219.55 9,053.87 36.80 32.35 117.64 528.32 -176.41 1,164.84 1,120.22 44.62 26.103		26.103	44.62	1,120.22	1,164.84	-176.41	528.32	117.64	32.35	36.60	9,053.87	9,219.55) 10,079.0	10,100.00

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CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Pro Directional Anticollision Report



Offset Site Error:

0.00 usft

Devon Energy Corp. Company: Project: Eddy County, NM (NAD83) Reference Site: Big Sinks Draw 25-24 0.00 usft Site Error: 331H **Reference Well:** 0.00 usft Well Error: **Reference Wellbore** ОН Prelim Plan **Reference Design:**

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference:

Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 **Reference Datum**

Offset Design Big Sinks Draw 25-24 - 531H - OH - Prelm Plan ...

Survey Progra	am: 0-N	/WD+HDGM											Offset Well Error:	0.00 usft
Refere	nce	Offse	t	Semi Major	Axis			. .	Dista	nce		.		
Messured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbor	Centre	Between	Between	Minimum Semantion	Separation	Warning	
(usft)	(usft)	(usft)	(usft)	(usfi)	(usft)	(°)	+N/-S	+E/-W	(usit)	(usft)	(usft)	Pacior		
(,	(,	(,	(,	()		.,	(uan)	(asir)						
10,200.00	10,178.96	9,230.99	9,057.66	37.16	32.39	118.66	539.12	-176.41	1,254.61	1,210.56	44.05	28.480		
10,300.00	10,278.92	9,250.00	9,063.46	37.52	32.45	119.24	557.22	-1/6.41	1,345.32	1,301.57	43.76	30.747		
10,400.00	10,378.91	9,250.00	9,063.46	37.87	32.45	121.16	557.22	-1/6.41	1,436.54	1,393.35	43.20	33.257		
10,500.00	10,478.91	9,250.00	9,063.46	38.21	32.45	46.52	557.22	-1/6.41	1,528.65	1,485.89	42.76	35.749		
10,600.00	10,578.91	9,250.00	9,063.46	38.55	32.45	46.52	557.22	-1/6.41	1,621.68	1,5/9.24	42.44	38.211		
10,700.00	10,678.91	9,272.42	9,069.53	38.89	32.53	45.01	578.80	-1/6.41	1,714.93	1,6/2.40	42.53	40.320		
10,800.00	10,778.61	9,280.05	9,071,40	39.23	32.55	32.35	586.20	-176.41	1,807.35	1,764.95	42.40	42.629		
10,900.00	10.875.77	9,300.00	9.075.83	39.57	32.62	23.60	605.65	-176.41	1,894.39	1,852.08	42.31	44.773		
11.000.00	10,967.44	9,300.00	9.075.83	39.89	32.62	18.87	605.65	-176.41	1,973.77	1,931.86	41.91	47.099		
11,100.00	11,050.83	9,320.02	9,079.59	40.18	32.69	15.74	625.31	-176.41	2,044.05	2,002.37	41.68	49.039		
11,200.00	11,123.41	9,350.00	9,083.93	40.45	32.79	13.70	654.97	-176.41	2,104.03	2,062.51	41.51	50.682		
11,300.00	11,182.98	9,350.00	9,083.93	40.71	32.79	12.45	654.97	-176.41	2,152.10	2,111.00	41.11	52.354		
11,400.00	11,227.72	9,375.87	9,086.43	40.98	32.88	11.60	680.72	-176.41	2,187.85	2,146.90	40.95	53.432		
11,500.00	11,256.27	9,400.00	9,087.71	41.29	32.97	11.11	704.81	-176.41	2,210.62	2,169.79	40.84	54.131		
11,600.00	11,267.77	9,424.55	9,088.00	41.62	33.05	10.92	716.83	-176.41	2,219.96	2,179.16	40.81	54.401		
11,700.00	11,268.00	9,512.02	9,088.00	41.98	33.38	10.93	816.83	-176.41	2,220.24	2,179.14	41.10	54.022		
	**		0 000 00	40.00		40.02	010.02	170 11	0 000 00	3 470 03	44 47	63 634		
11,800.00	11,268.00	9,612.01	9,088.00	42.38	33.82	10.93	910.83	-176.41	2,220.30	2,170.02	41.47	53.334		
11,900.00	11,268.00	9,712.01	9,088.00	42.83	34.30	10.94	1,016.83	-1/6.41	2,220.35	2,170.44	41.91	52.977		
12,000.00	11,268.00	9,812.01	9,088.00	43.33	34.84	10.95	1,110.83	-1/0.41	2,220.41	2,170.00	42.41	51 694		
12,100.00	11,268.00	9,912.01	9,088.00	43.80	35.43	10.95	1,210.82	-176.41	2,220.40	2,177.00	42.90	50.062		
12,200.00	11,200.00	10,012.01	9,066.00	44.43	30.07	10.90	1,310.02	-1/0.41	2,220.31	2,170.94	43.37	30.902		
12,300.00	11,268.00	10,112.01	9,088.00	45.05	36.75	10.97	1,416.82	-176.41	2,220.57	2,176.34	44.23	50.201		
12,400.00	11,268.00	10,212.01	9,088.00	45.70	37.48	10.98	1,516.82	-176.41	2,220.62	2,175.68	44.95	49.406		
12,500.00	11,268.00	10,312.01	9,088.00	46.38	38.25	10.98	1,616.82	-176.41	2,220.68	2,174.97	45.71	48.586		
12,600.00	11,268.00	10,412.01	9,088.00	47.10	39.05	10.99	1,716.82	-176.41	2,220.73	2,174.22	46.51	47.745		
12,700.00	11,268.00	10,512.01	9,088.00	47.86	39.90	11.00	1,816.82	-176.41	2,220.79	2,173.43	47.36	46.891		
12,800.00	11,268.00	0 10,612.01	9,088.00	48.64	40.77	11.01	1,916.82	-176.41	2,220.85	2,172.59	48.25	46.028		
12,900.00	11,268.00	0 10,712.01	9,088.00	49.46	41.68	11.01	2,016.82	-176.41	2,220.90	2,171.72	49.18	45.161		
13,000.00	11,268.00	10,812.01	9,088.00	50.30	42.62	11.02	2,116.82	-176.41	2,220.96	2,170.81	50.14	44.294		
13,100.00	11,268.00	10,912.01	9,088.00	51.17	43.58	11.03	2,216.82	-176.41	2,221.01	2,169.87	51.14	43.430		
13,200.00	11,268.00	11,012.01	9,088.00	52.06	44.58	11.03	2,316.82	-176.41	2,221.07	2,168.90	52.17	42.574		
13.300.00	11.268.00	11.112.01	9.088.00	52.98	45.59	11.04	2.416.82	-176.41	2 221 12	2.167.89	53.23	41.727		
13,400.00	11.268.00	11.212.01	9.088.00	53.93	46.63	11.05	2.516.82	-176.41	2.221.18	2,166.86	54.32	40.891		
13,500.00	11,268.00	11,312.01	9,088.00	54.89	47.69	11.06	2,616.82	-176.41	2,221.23	2,165.80	55.44	40.069		
13,600.00	11,268.00	11,412.01	9,088.00	55.88	48.77	11.06	2,716.82	-176.41	2,221.29	2,164.71	56.58	39.262		
13,700.00	11,268.00	11,512.01	9,088.00	56.88	49.87	11.07	2,816.82	-176.41	2,221.34	2,163.60	57.74	38.471		
13,800.00	11,268.00) 11,612.01	9,088.00	57.91	50.99	11.08	2,916.82	-176.41	2,221.40	2,162.47	58.93	37.696		
13,900.00	11,268.00) 11,712.01	9,088.00	58.95	52.12	11.09	3,016.82	-176.41	2,221.45	2,161.32	60.14	36.940		
14,000.00	11,268.00) 11,812.01	9,088.00	60.01	53.26	11.09	3,116.82	-1/6.41	2,221.51	2,160.14	61.37	36.201		
14,100.00	11,268.00	11,912.01	9,088.00	61.08	54.43	11.10	3,216.82	-1/6.41	2,221.56	2,158.95	62.61	33.461		
14,200.00	11,268.00	12,012.00	9,088.00	62.17	55.60	11.11	3,316.82	-1/0.41	2,221.62	2,157.74	03.88	34.119		
14.300.00	11.268.00) 12.112.00	9.088.00	63.27	56.79	11.12	3.416.82	-176.41	2,221.68	2,156.52	65.16	34.096		
14,400.00	11,268.00) 12.212.00	9.088.00	64.39	57.99	11,12	3.516.82	-176.41	2,221.73	2,155.28	66.46	33.432		
14,500.00	11,268.00	12,312.00	9,088.00	65.52	59.20	11.13	3,616,81	-176.41	2,221.79	2,154.02	67.77	32.785		
14,600.00	11,268.00	12,412.00	9,088.00	66.67	60.42	11,14	3,716.81	-176.41	2,221.84	2,152.75	69.09	32.157		
14,700.00	11,268.00) 12,512.00	9,088.00	67.82	61.65	11.14	3,816.81	-176.41	2,221.90	2,151.47	70.43	31.546		
14,800.00	11,268.00	12,612.00	9,088.00	68.99	62.89	11.15	3,916.81	-176.41	2,221.95	2,150.17	71.79	30.953		
14,900.00	11,268.00	12,712.00	9,088.00	70.16	64.14	11.16	4,016.81	-176.41	2,222.01	2,148.86	73.15	30.377		
15,000.00	11,268.00	12,812.00	9,088.00	71.35	65.40	11.17	4,116.81	-176.41	2,222.07	2,147.54	74.52	29.817		
15,100.00	11,268.00	12,912.00	9,088.00	72.54	66.66	11.17	4,216.81	-176.41	2,222.12	2,146.21	75.91	29.274		
15,200.00	11,268.00	13,012.00	9,088.00	73.75	67.93	11.18	4,316.81	-176.41	2,222.18	2,144.87	77.30	28.746		
15 200 00	11 269 04	12 442 00	0.000.00	74.00	60.24		A 410 04	170 44	2 222 22	3 443 53	70 74	20 222		
13,300.00	11,200.00	13,112.00	9,088.00	/4.95	09.21	11.19	4,410.81	-1/0.41	2,222.23	2,143.52	/8./1	20.233	<u> </u>	
			CC - Min	centre to ce	enter dista	ance or cove	rgent point, SI	- min sep	aration fact	tor, ES - n	nin ellipse s	eparation		

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Pro Directional Anticollision Report



Offset Site Error:

0.00 usft

Devon Energy Corp. Company: Eddy County, NM (NAD83) Project: Big Sinks Draw 25-24 **Reference Site:** 0.00 usft Site Error: **Reference Well:** 331H Well Error: 0.00 usft **Reference Wellbore** ОН **Reference Design:** Prelim Plan

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference: Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset Design Big Sinks Draw 25-24 - 531H - OH - Preim Plan

Survey Prog	nam: 0-1	WD+HDGM											Offset Well Error:	0.00 usft
Refere	ence	Offse	et	Semi Major	Axis				Dista	nce				
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbor	e Centre	Between	Between	Minimum	Separation	Warning	
Depth (ueft)	Depth (ueth)	Depth	Depth (un#)	(u n 19)	(11 017)	Toolfaça	+N/-S	+E/-W	Centres (ue#)	Ellipses (us#)	Separation (unft)	Factor		
(0011)	land	(cost)	(usit)	(0211)	lasil	.,	(usn)	(usn)	(uaity	(ueit)	lasul			
15,400.00	11,268.00	13,212.00	9,088.00	76.18	70.50	11.20	4,516.81	-176.41	2,222.29	2,142.17	80.12	27.736		
15,500.00	11,268.00	13,312.00	9,088.00	77.41	71.79	11.20	4,616.81	-176,41	2,222.35	2,140.80	81,55	27.253		
15,600.00	11,268.00	13,412.00	9,088.00	78.65	73.09	11.21	4,716.81	-176.41	2,222.40	2,139.42	82.98	26.783		
15,700.00	11,268.00	13,512.00	9,088.00	79.89	74.39	11.22	4,816.81	-176.41	2,222.46	2,138.04	84.42	26.327		
15,800.00	11,268.00	13,612.00	9,088.00	81.14	75.70	11.22	4,916.81	-176.41	2,222.51	2,136.65	85.86	25.885		
15,900.00	11,268.00	13,712.00	9,088.00	82.40	77.01	11.23	5,016.81	-176.41	2,222.57	2,135.26	87.32	25.454		
16,000.00	11,268.00	13,812.00	9,088.00	83.66	78.33	11.24	5,116.81	-176.41	2,222.63	2,133.85	88.78	25.036		
16,100.00	11,268.00	13,912.00	9,088.00	84.93	79.65	11.25	5,216.81	-176.41	2,222.68	2,132.44	90.24	24.630		
16,200.00	11,268.00	14,012.00	9,088.00	88.21	80.98	11.25	5,316.81	-176.41	2,222.74	2,131.03	91.71	24.235		
16,300.00	11,268.00	14,112.00	9,088.00	87.49	82.31	11.26	5,416.81	-176.41	2,222.80	2,129.60	93,19	23.852		
16,400.00	11,268.00	14,212.00	9,088.00	88.77	83.64	11.27	5,516.81	-176.41	2,222.85	2,128.18	94.68	23.478		
16.500.00	11.268.00	14.312.00	9.088.00	90.07	84.98	11.28	5.616.81	-176.41	2.222.91	2.126.74	96.17	23,115		
16.600.00	11,268.00	14.411.99	9.088.00	91.38	86.32	11.28	5,716.81	-176.41	2,222.97	2,125.30	97.66	22,762		
16,700.00	11,268.00	14.511.99	9.088.00	92.66	87.66	11.29	5.816.81	-176.41	2,223.02	2.123.86	99.16	22.419		
16,800.00	11.268.00	14.611.99	9.088.00	93.96	89.01	11.30	5,916,81	-176.41	2,223.08	2.122.41	100.66	22.084		
16,900,00	11,268.00	14.711.99	9.088.00	95.27	90.36	11.31	6.016.80	-176.41	2.223.14	2,120.96	102.17	21,759		
			0,000.00						-,					
17,000.00	11,268.00	14,811.99	9,088.00	96.58	91.72	11.31	6,116.80	-176.41	2,223.19	2,119.51	103.69	21.442		
17,100.00	11,268.00	14,911.99	9,088.00	97.90	93.07	11.32	6,216.80	-176.41	2,223.25	2,118.05	105.20	21.133		
17,200.00	11,268.00	15,011.99	9,088.00	99.22	94.43	11.33	6,316.80	-176.41	2,223.31	2,116.58	106.72	20.832		
17,300.00	11,268.00	15,111.99	9,088.00	100.54	95.80	11.33	6,416.80	-176.41	2,223.36	2,115.11	108.25	20.540		
17,400.00	11,268.00	15,211.99	9,088.00	101.87	97.18	11.34	6,516.80	-176.41	2,223.42	2,113.64	109.78	20.254		
17.500.00	11,268.00	15.311.99	9.088.00	103.20	98.53	11.35	6.616.80	-176.41	2.223.48	2,112,17	111.31	19.976		
17,600.00	11,268.00	15,411.99	9,088.00	104.53	99.90	11.36	6,718.80	-176.41	2,223.53	2,110.69	112.84	19.705		
17,700.00	11,268.00	15,511.99	9,088.00	105.87	101.27	11.36	6,816.80	-176.41	2,223.59	2,109.21	114.38	19.440		
17,800.00	11,268.00	15,611.99	9,088.00	107.21	102.64	11.37	6,916.80	-176.41	2,223.65	2,107.72	115.92	19.182		
17,900.00	11,268.00	15,711.99	9,088.00	108.55	104.02	11.38	7,016.80	-176.41	2,223.70	2,106.23	117.47	18.930		
18.000.00	11,268.00	15 811.99	9 088 00	109.89	105 39	11 39	7 116 RO	-176.41	2,223 78	2.104.74	119.02	18.685		
18 100 00	11 268 00	15 911 99	9 088 00	111 24	106 77	11.39	7 216 80	-176 41	2 223 R2	2 103 25	120 57	18.445		
18,200,00	11,268.00	16,011,99	9 088 00	112.59	108.15	11.40	7 316 80	-176 41	2 223 87	2,101,76	122 12	18.211		
18,300,00	11.268 0	16 111 99	9,000.00	113 04	109.51	11 41	7 416 80	-176 41	2 223 93	2 100 30	123 63	17.989		
18 313 53	11 268 00	16 125 52	9 088 00	114 13	109.67	11 41	7 430 33	-176 41	2 223 04	2 100 15	123.79	17 965		
,0,010.00		10,120.02	0,000.00	114.15	100.07	11.41	7,400.00	-110.41	A.440.04	2,100.13	120.10	.1.505		



Anticollision Report



Offset Site Error:

0.00 usft

Devon Energy Corp. Company: Eddy County, NM (NAD83) Project: Reference Site: Big Sinks Draw 25-24 0.00 usft Site Error: 331H **Reference Well:** 0.00 usft Well Error: **Reference Wellbore** ОН Prelim Plan **Reference Design:**

Local Co-ordinate Reference: **TVD Reference:** MD Reference: North Reference: **Survey Calculation Method:** Output errors are at Database: **Offset TVD Reference:**

Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 **Reference Datum**

Offset Design Big Sinks Draw 25-24 - 611H - OH - Prelim Plan ...

Survey Prog	ram: 0-1	MWD+HDGM		_									Offset Well Error:	0.00 usft
Refer	ence	Offse	et	Semi Major	Axis	10-L-L-	67		Dista	nce	MI-1	0		
Measured	Vertical	Neasured	Vertical	Reference	Offset	Highside Toolface	Offset Wellbor	e Centre	Between Centree	Between	Minimum	Separation	Warning	
(usft)	(usft)	(usit)	(uaft)	(usft)	(usft)	(*)	+N/-S (us#)	+E/-W (usfi)	(usft)	(usft)	(usft)	Factor		
			,,	(lasid	(usity	(,	((,			
0.00	0.00	0.00	0.00	0.00	0.00	89.70	0.16	30.06	30.06	~ ~ ~	0.07	*** ***		
100.00	100.00	0 100.00	100.00	0.13	0.13	89.70	0.16	30.06	30.06	29.80	0.27	113.320		
200.00	200.00	200.00	200.00	0.49	0.49	89.70	0.16	30.06	30.06	29.08	0.98	30.605		
400.00	400.00	300.00	400.00	0.85	1.00	69.70	0.16	30.00	30.00	20.30	1.70	12.443		
400.00	400.00	0 400.00 0 600.00	400.00	1.21	1.21	89.70	0.16	30.00	30.00	27.04	2.42	12.442		
500.00	500.00	500.00	300.00	1.57	1.57	69.70	0.10	30.00	30.00	20.93	3.13	9.595		
600.00	600.00	600.00	600.00	1.92	1.92	89.70	0.16	30.06	30.06	26.21	3.85	7.808		
700.00	700.00	700.00	700.00	2.28	2.28	89.70	0.16	30.06	30.06	25.49	4.57	6.582		
800.00	800.00	00.008 0	800.00	2.64	2.64	89.70	0.16	30.06	30.06	24.78	5.28	5.689		
900.00	900.00	900.00	900.00	3.00	3.00	89.70	0.16	30.06	30.06	24.06	6.00	5.009		
1,000.00	1,000.00	1,000.00	1,000.00	3.36	3.36	89.70	0.16	30.06	30.06	23.34	6.72	4.475 CC	:	
1,100.00	1,100.00	0 1,100.00	1,100.00	3.71	3.72	164.87	0.16	30.06	30.48	23.05	7.43	4.103 ES	3	
1,200.00	1,199.99	9 1,200.01	1,199.99	4.06	4.08	165.48	0.16	30.06	31.75	23.61	8.13	3.903		
1,300.00	1,299.93	7 1,300.03	1,299.97	4.41	4.43	166.41	0.16	30.06	33.86	25.02	8.84	3.830		
1,400.00	1,399.92	2 1,400.08	1,399.92	4.76	4.79	167.52	0.16	30.06	36.84	27.29	9.55	3.857		
1,500.00	1,499.84	4 1,499.84	1,499.84	5.11	5.15	168.71	0.16	30.06	40.68	30.42	10.26	3.965		
1,600,00	1 599 7	3 1 600 12	1 600 12	5 47	5 50	169 94	0.16	29 62	44 06	34.00	10.96	4 101		
1 700 00	1 699 54	6 170043	1 700 42	5.97 5.82	5.50	171 23	0.16	28.31	49 25	37 59	11 66	4.225		
1,800.00	1,799.3	5 1,800.78	1.800.74	6.18	6.19	172.56	0.16	26.11	53.56	41.20	12.36	4.335		
1,900.00	1.899.1	1 1.901.18	1.901.09	6.54	6.54	173.87	0.16	23.04	57.48	44.42	13.06	4.402		
2.000.00	1,998.8	6 2.001.63	2.001.47	6.90	6.89	175.16	0.16	19.08	60.56	46.80	13.76	4,402		
		,												
2,100.00	2,098.63	2 2,102.13	2,101.85	7.27	7.24	176.48	0.16	14.24	62.81	48.35	14.46	4,344		
2,200.00	2,198.3	7 2,202.65	2,202.21	7.63	7.59	177.89	0.16	8.52	64.24	49.07	15.16	4.236		
2,300.00	2,298.13	3 2,303.18	2,302.52	7.99	7.95	179.42	0.16	1.92	64.85	48.98	15.87	4.086		
2,400.00	2,397.8	8 2,403.56	2,402.63	8.36	8.31	-178.87	0.16	-5.51	64.70	48.12	16.58	3.903		
2,500.00	2,497.6	4 2,503.54	2,502.32	8.72	8.67	-177.10	0.16	-13.15	64.38	47.09	17.29	3.723		
2 600 00	0 507 0		0 600 00	0.00	0.02	475 34	0.10	20.70	64.42	46.12	10.01	9 669		
2,000.00	2,097.3	9 2,003.52 5 3,703.50	2,002.00	9.09	9.03	-173.31	0.16	-20.70	62.04	40.12	10.01	3.302		
2,700.00	2,097.1	D 2,703.30	2,701.09	9.43	9.39	-173.52	0.10	-20.42	63.94	43.22	10.72	3.413		
2,000.00	2,730.5	B 2,003.46	2,001.30	10.19	10.11	-169.90	0.16	-30.03	63.75	44.57	20.16	3 162		
2 947 71	2 944 2	5 2,000.40	2 948 62	10.15	10.28	-169.03	0.16	-47.33	63.74	43.00	20.10	3 109		
2,047.71	2,044.2	2,001.10	2,040.02	10.50	10.20	-103.03	0.10	-17.00	00.14	40.24	20.50	3.103		
3,000.00	2,996.4	1 3,003.44	3,000.75	10.55	10.47	-168.08	0.16	-51.32	63.75	42.87	20.88	3.053		
3,100.00	3,096.1	7 3,103.42	3,100.44	10.92	10.84	-166.27	0.16	-58.96	63.82	42.21	21.60	2.954		
3,200.00	3,195.9	2 3,203.40	3,200.13	11.29	11.20	-164.46	0.16	-66.59	63.95	41.62	22.33	2.864		
3,300.00	3,295.6	8 3,303.38	3,299.82	11.65	11.56	-162.66	0.16	-74.23	64.14	41.08	23.06	2.782		
3,400.00	3,395.4	3 3,403.36	3,399.50	12.02	11.93	-160.88	0.16	-81.66	64.39	40.61	23.78	2.707		
2 500.00	3 405 44	0 9 509 94	2 400 40	40.00	12.20	150 44		00.50	P4 74	40.00	24.54	2 640		
3,500.00	3,495.1	9 3,503.34	3,499.19	12.39	12.30	-159.11	0.16	-69.50	04./1	40.20	24.51	2.040		
3,000.00	3,094.94	+ 3,003.32 0 3,703.30	3,098.68	12.78	12.00	-157.30	0.16	-97,13	00.09	39.64	25.24	2.3/8		
3 800 00	3 704 4	5 3,703.30	3,098.07	13.13	13.03	-100.00	0.16	-104.77	66.00 66.00	39.33	20.50 28.71	2.322		
3,900.00	3,894.2	1 3,903.26	3,897.94	13.49	13.40	-152 25	0.10	-120.40	66.59	39.31	20.71	2.47E		
0,000.00	0,004.2	. 0,000.20	0,001.04	10.00	10.70	- 106.60	0.10	-120.04		00.10	21.43	2.420		
4,000.00	3,993.9	6 4,003.23	3,997.63	14.23	14.13	-150.60	0.16	-127.67	67.19	39.01	28.18	2.384		
4,100.00	4,093.7	2 4,103.21	4,097.32	14.60	14.50	-148.98	0.16	-135.31	67.86	38.93	28.92	2.346		
4,200.00	4,193.4	7 4,203.19	4,197.01	14.97	14.87	-147.40	0.16	-142.94	68.57	38.91	29.66	2.312		
4,300.00	4,293.2	3 4,303.17	4,296.69	15.34	15.24	-145.85	0.16	-150.58	69.34	38.94	30.40	2.281		
4,400.00	4,392.9	9 4,403.15	4,396.38	15.71	15.61	-144.33	0.16	-158.21	70.16	39.02	31.14	2.253		
1														
4,500.00	4,492.7	4 4,503.13	4,496.07	16.08	15.98	-142.85	0.16	-165.85	71.03	39.15	31.88	2.228		
4,600.00	4,592.5	0 4,603.11	4,595.76	16.45	16.34	-141.41	0.16	-173.49	71.95	39.32	32.62	2.205		
4,700.00	4,692.2	5 4,703.09	4,695.44	16.81	16.71	-140.00	0.16	-181.12	72.90	39.54	33.37	2.185		
4,800.00	4,792.0	1 4.803.07	4,795.13	17.18	17.08	-138.63	0.16	-188.76	73.90	39.79	34.11	2.167		
4,900.00	4,891.7	6 4,903.05	4,894.82	17.55	17.45	-137.30	0.16	-196.39	74.95	40.09	34.86	2.150		
5,000 00	4,991 5	2 5,003,03	4,994 51	17 92	17 89	-136.01	0.16	-204 03	78.03	40 43	35.60	2 136		
	.,001.0		-,					-204.03			55.00	2.100		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Company:

Site Error:

Reference Well

Project: Reference Site:

Pro Directional

TVD Reference:

MD Reference:

Database:

North Reference:

Output errors are at

Offset TVD Reference:

Local Co-ordinate Reference:

Survey Calculation Method:



0.00 usf

Anticollision Report

Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

0.00 usft Well Error: Reference Wellbore OH Prelim Plan **Reference Design:**

331H

0.00 usft

Devon Energy Corp.

Big Sinks Draw 25-24

Eddy County, NM (NAD83)

Offset Site Error: Offset Design Big Sinks Draw 25-24 - 611H - OH - Prelim Plan 0-MWD+HDGM Offset Weil Error: 0.00 usf Survey Program: Reference Offe Semi Major Axis Dist Highside Offset Wellbore Centre Separation Measured Vertica Measured Vertical Reference Offset Warning Ellipser Factor Depth Depth Depth olface +E/-W Centres ----+N/-S (usft) (usft) (usft) (usft) (បនរីវ) (usft) C (usft) (usft) (usft) (usft) (usft) -134.75 77.15 40.80 36.34 2.123 5,100.00 5.091.27 5,103.01 5.094.19 18.29 18.19 0.16 -211.66 5,200.00 5 191.03 5,202.99 5,193.88 18.66 18.56 -133.53 0.16 -219.30 78.30 41.21 37.09 2.111 -132.35 -226.93 79.49 41.68 37.84 2.101 5.293.57 19.03 18.94 0.16 5.300.00 5.290.78 5.302.97 -234.57 80.71 42.13 38.58 2.092 5 400 00 5 390 54 5 402 95 5 393 26 19.40 19.31 -131.20 0.16 2.084 -242.20 81.97 42.64 39.33 5 500 00 5 490 29 5 502 93 5 492 94 19.77 19.68 -130.08 0.16 2.078 5.600.00 5.590.05 5.602.91 5 592 63 20 14 20.05 -129.00 0.16 -249.84 83.25 43.18 40.07 5,689.80 40.82 2.072 5,702,89 5.692.32 20.51 20.42 -127.95 0.18 -257.47 84.57 43.75 5,700.00 5.800.00 5,789.56 5.802.87 5.792.01 20.88 20.79 -128.94 0.16 -265.11 85.91 44.34 41.56 2.067 21.25 -125.96 0.16 -272.74 87.27 44.96 42.31 2.063 5.889.31 5.902.85 5.891.70 21.16 5.900.00 2.059 -125.00 -280.38 88.66 45.61 43.06 6 000 00 5.989.07 6 002 83 5.991.38 21.62 21.53 0.16 43.80 2.056 6.100.00 6.088.82 6.102.81 6 091 07 21.99 21.90 -124 09 0.16 -288.01 90.08 46.28 -123.18 -295.65 91.52 46.97 44.55 2.054 6.200.00 6,188,58 6.202.79 6,190.76 22.36 22.27 0.16 2.053 22.73 22.65 -122.32 0.16 -303.28 92.98 47.68 45.29 6.300.00 6.288.33 6.302.77 6.290.45 -310.92 94.46 48.42 46.04 2.052 6.400.00 6.388.09 6.402.75 6.390.13 23.10 23.02 -121.48 0.16 -120.66 0.16 -318.55 95.96 49.17 46.79 2 051 6 500 00 6 487 84 8 502 73 6 489 82 23 47 23.39 2.051 SF -326.19 47.53 6.600.00 6 587 60 6.602.70 6 589 51 23.84 23.76 -119.88 0.16 97.47 49.94 6.700.00 6.687.35 6.702.68 6.689.20 24.21 24.13 -119.11 0.16 -333.82 99.01 50.73 48.28 2.051 49.02 2.051 6,802.66 6,788.88 24.58 24.50 -118.37 0.16 -341.46 100.56 51.54 6.800.00 6,787.11 6.886.86 6.902.64 6.888.57 24.95 24.88 -117.65 0.16 -349.09 102.13 52.36 49.77 2.052 6,900.00 2.053 -356.73 103.72 53.20 50.51 7 000 00 6 986 62 7 002 62 8 988.26 25.32 25.25 -116.96 0.16 7,100.00 7.086.38 7.102.60 7.087.95 25.69 25.62 -116.28 0.16 -364.36 105.32 54.06 51.26 2.055 -115.63 0.16 -372.00 106.93 64 93 52.00 2 056 7,200.00 7.186.13 7.202.58 7.187.63 26.06 25.99 7,285.89 7,302.56 26.43 26.36 -114.99 0.16 -379.63 108.56 55.81 52.75 2.058 7.300.00 7.287.32 7,387.01 -114.38 -387.27 110.20 56.71 53.49 2.060 7.385.64 7.402.54 26.80 26.74 0.18 7.400.00 -394.91 57.62 54.24 2.062 -113.78 111.85 7.485.40 7.502.52 7,486,70 27.17 27.11 0.16 7.500.00 2 065 -402.54 113.52 58.54 54 98 7 585 15 7 600 00 7 602 50 7 588 39 27.54 27.48 -113.20 0.16 7,686.07 27.91 27.85 -112.63 0.16 -410.18 115.20 59 47 55 73 2 067 7,700.00 7,684.91 7,702.48 -417.81 116.88 60.41 56 47 2 070 7,800.00 7,784.66 7,802.46 7.785.76 28.28 28.22 -112.08 0.16 -425.45 118.58 61.36 57.22 2.072 7,900.00 7.884.42 7.902.44 7.885.45 28.65 28.60 -111.55 0.16 8,000.00 7,984.17 8,002.42 7,985.14 29.02 28.97 -111.04 0.16 -433.08 120.29 62.33 57.96 2.075 -440.72 122.00 63.30 58.70 2.078 8.084.82 29.34 -110.53 0.16 8.083.93 8,102,40 29.39 8.100.00 8,200.00 8,183.68 8.202.38 8,184.51 29.76 29.71 -110.04 0.16 -448.35 123.73 64.28 59.45 2.081 2.084 8,300.00 8,283,44 8.302.36 8.284.20 30.13 30.09 -109.57 0.16 455 99 125 46 65 27 60.19 8,400.00 8,383.19 8,402.34 8,383.89 30.50 30.46 -109.11 0.16 -463 62 127 21 66.27 60.94 2.088 8,502.32 8,500.00 8,482.95 8,483.57 30.87 30.83 -108 66 0.16 -471.26 128.96 67 28 61 68 2 091 -108.22 2.094 8,600.00 8,582.70 8,602.30 8,583.26 31.24 31.20 0.16 -478.89 130.72 68.29 62.42 69.32 63 17 2.097 -107.79 0.16 -486.53 132.48 8 682 46 8 682 95 31.61 31.58 8,700.00 8 702 28 2.101 8.800.00 8.782.21 8.802.26 8.782.64 31.98 31.95 -107.380.16 -494.16 134.26 70.35 63.91 8.900.00 8.881.97 8,902,24 8.882.32 32.35 32.32 -106.98 0.16 -501.80 136.04 71.38 64.65 2.104 2,108 9.000.00 8.981.72 9 002 22 8 982 01 32 72 32.69 -106 58 0.16 -509.43 137.83 72 43 65.40 9,100.00 9,081.48 9,102.20 9.081.70 33.09 33.07 -106.20 0.16 -517.07 139.62 73.48 66.14 2.111 -105.83 0.16 -524.70 141.42 74.53 66.88 2.114 9,200.00 9,181.23 9,202.17 9,181.39 33.46 33.44 67.63 2.118 -105.48 -532.34 143.22 75.60 9.300.00 9.280.99 9.302.15 9,281.08 33.84 33.81 0.16 2.121 -539.97 145.03 76.66 68.37 9 400 00 9 380 74 9 402 13 9 380 76 34 21 34 18 -105.11 0.16 9.500.00 9.480.50 9 502 11 9.480.45 34.58 34 56 -104 76 0.16 -547 61 146.85 77.74 69.11 2.125 9,600.00 9,602.09 9,580.14 34.93 -104.42 -555 24 148.67 78.82 69.86 2.128 9,580.25 34.95 0.16 150.50 2.132 9,700.00 9.680.01 9,702.07 9.679.83 35.32 35.30 -104.09 0.16 -562.88 79.90 70.60 2.135 9,800.00 9.779.76 9 802 05 9,779.51 35.69 35.68 -103 77 0 16 -570 51 152.33 80.99 71.34 9,900.00 9.879.52 9.902.03 9.879.20 36.08 36.05 -103 46 0.16 -578 15 154.17 82.08 72.08 2.139 10,000.00 10,002.09 -103.48 -584 89 155 98 83.16 72 82 2.142 9,979.28 9,979.03 36.43 36.42 0.16 10,100.00 10,079.07 10,102.13 10,078.95 36.80 36.78 -103.93 0.16 -589.88 157.61 84.05 73.56 2.143 10,200.00 10,178.96 10,202.16 10,178.92 37.16 37.14 -104.40 0.16 -593.13 158 79 84 51 74 28 2.138 CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

11/1/2017 4:41:19PM



Anticollision Report



Offset Site Error:

0.00 usft

Company: Devon Energy Corp. Project: Eddy County, NM (NAD83) **Reference Site:** Big Sinks Draw 25-24 Site Error: 0.00 usft **Reference Well:** 331H Well Error: 0.00 usft Reference Wellbore ОН **Reference Design:** Prelim Plan

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference: Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset Design Big Sinks Draw 25-24 - 611H - OH - Prelim Plan

Survey Progr	am: 0-M	WD+HDGM		.									Offset Well Error:	0.00 usft
Refere	ince	Offs	et	Semi Major	Axis			. .	Dista	ince		_		
Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Weilbor	e Centre	Centres	Between Fillmaas	Minimum Sensmition	Separation Factor	Warning	
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(7)	+ru-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)	1 BOLDI		
10 200 00	10 379 03	40 202 47	40.070.00			404.07	(,							
10,300.00	10,278.92	10,302.17	10,278.92	37.52	37.49	-104.87	0.16	-594.64	159.54	84.55	74.99	2.12/		
10,500,00	10,378.91	10,402.10	10,378,91	38.21	38.17	170.80	0.10	-394.75	150.04	04.13 83.48	75.00	2.112		
10,500.00	10,470.91	10,502.10	10,478.91	38.55	38.51	179.80	0.10	-594.75	159.04	63.40 82.80	70.30	2.093		
10,000.00	10,678,91	10,002.16	10,678,91	38.89	38.85	179.80	0.10	-594.75	150.94	82.00	77.04	2.073		
10,800.00	10,778,61	10 801 86	10 778 61	39.23	39.18	179.97	0.16	-594.75	165.97	87 58	78.39	2.007		
							0.10	-004.10	100.01	01.00	10.00	•		
10,900.00	10,875.77	10,900.98	10,875.77	39.57	39.52	179.97	0.16	-594.75	189.09	110.03	79.06	2.392		
11,000.00	10,967.44	10,990.69	10,967.44	39.89	39.82	179.97	0.16	-594.75	228.74	149.06	79.68	2.871		
11,100.00	11,050.83	11,108.83	11,085.40	40.18	40.22	179.98	4.50	-594.76	281.49	201.49	80.00	3.519		
11,200.00	11,123.41	11,299.86	11,267.62	40.45	40.82	179.98	58.84	-594.92	327.12	251.20	75.92	4.309		
11,300.00	11,182.98	11,539.14	11,454.50	40.71	41.38	179.98	205.48	-595.35	354.01	289.79	64.22	5.513		
11 400 00	44 227 72		44 573 00	40.00	44.00	470.00		500.00			60 00	7 000		
11,400.00	11,227.72	11,602.94	11,372.00	40.98	41.00	179.98	439.01	-596.02	334.21	303.82	50.39	7.030		
11 600 00	11 267 77	12 082 01	11 588 00	41.29	42.33	179.98	716.93	-390.34	331.73	203.91	47.02	0.93/		
11,690,25	11 269 17	12 172 24	11 588 00	41.02	42.00	179.98	907.05	-597.09	318.83	272.12	40.10	6 500		
11,700.00	11 268 00	12 182 00	11 588 00	41.95	43.02	179.98	816.83	-597 12	320.00	270.43	40.50	6.610		
		12,102.00		41.00	40.02		010.00	-001.12	020.00	271.00	40,41	0.010		
11,800.00	11,268.00	12,282.00	11,588.00	42.38	43.44	179.98	916.83	-597.41	320.00	271.23	48.77	6.561		
11,900.00	11,268.00	12,382.00	11,588.00	42.83	43.90	179.98	1,016.83	-597.70	320.00	270.82	49.18	6.507		
12,000.00	11,268.00	12,482.00	11,588.00	43.33	44.40	179.99	1,116.82	-597.99	320.00	270.37	49.63	6.448		
12,100.00	11,268.00	12,582.00	11,588.00	43.86	44.94	179.99	1,216.82	-598.28	320.00	269.87	50.13	6.384		
12,200.00	11,268.00	12,682.00	11,588.00	44,43	45.52	179.99	1,316.82	-598.57	320.00	269.33	50.67	6.316		
40.000.00		40 700 00												
12,300.00	11,268.00	12,782.00	11,588.00	45.05	46.13	179.99	1,416.82	-598.86	320.00	268.75	51.25	6.244		
12,400.00	11,200.00	12,882.00	11,588.00	45.70	40.79	179.99	1,516.82	-599.15	320.00	268.13	51.8/	6.169		
12,500.00	11 269 00	12,902.00	11,500.00	40.30	47.47	179.99	1,010.62	-399.44	320.00	207.40	52.54	0.091		
12,000.00	11,200.00	13,082.00	11,000.00	47.10	40.19	179.99	1,716.82	-599.73	320.00	200.70	53.24	5.039		
12,700.00	11,200.00	13,102.00	11,366.00	47.00	40.93	179.99	1,010.02	-600.02	320.00	200.02	53.90	3.920		
12,800.00	11,268.00	13,282.00	11,588.00	48.64	49.73	179.99	1,916.82	-600.31	320.00	265.25	54.75	5.845		
12,900.00	11,268.00	13,382.00	11,588.00	49.46	50.54	179.99	2,016.82	-600.60	320.00	264.44	55.56	5.760		
13,000.00	11,268.00	13,482.00	11,588.00	50.30	51.38	179.99	2,116.82	-600.89	320.00	263.60	56.40	5.674		
13,100.00	11,268.00	13,582.00	11,588.00	51.17	52.25	179.99	2,216.82	-601.18	320.00	262.73	57.27	5.588		
13,200.00	11,268.00	13,682.00	11,588.00	52.06	53.14	179.99	2,316.82	-601.47	320.00	261.83	58.17	5.501		
13,300.00	11,268.00	13,782.00	11,588.00	52.98	54.06	179.99	2,416.82	-601.76	320.00	260.90	59.10	5.415		
13,400.00	11,268.00	13,882.00	11,588.00	53.93	55.00	179.99	2,516.82	-602.05	320.00	259.95	60.05	5.329		
13,500.00	11,200.00	13,962.00	11,566.00	56.09	55.90	179.99	2,010.82	-602.34	320.00	258.97	61.03	5.243		
13,000.00	11 268 00	14,082.00	11,500.00	55.00	57.04	179.99	2,716.62	-602.63	320.00	257.97	62.03	5,156		
13,700.00	11,200.00	14,102.00	11,300.00	30.00	37.94	179.99	2,010.02	-002.92	320.00	200.94	63.06	5.074		
13,800.00	11,268.00	14,282.00	11,588.00	57.91	58.96	179.99	2,916.82	-603.21	320.00	255.89	64.11	4,991		
13,900.00	11,268.00	14,382.00	11,588.00	58.95	60.00	179.99	3,016.82	-603.50	320.00	254.82	65.18	4.909		
14,000.00	11,268.00	14,482.00	11,588.00	60.01	61.05	179.99	3,116.82	-603.79	320.00	253.73	66.27	4.829		
14,100.00	11,268.00	14,582.00	11,588.00	61.08	62.12	179.99	3,216.82	-604.08	320.00	252.62	67.38	4.749		
14,200.00	11,268.00	14,682.00	11,588.00	62.17	63.20	179.99	3,316.82	-604.37	320.00	251.49	68.51	4.671		
44 200 00	44 000 00	44 700 00	** 500.00											
14,300.00	11,268.00	14,782.00	11,588.00	63.27	64.30	179.99	3,416.82	-604.66	320.00	250.35	69.65	4.594		
14,400.00	11 200.00	14,082.00	11,588.00	64.39	65.41	179.99	3,516.81	-604.95	320.00	249.19	/0.81	4.519		
14,500.00	11,200.00	14,982.00	11,000.00	00.02	67.60	179.99	3,616.81	-605.24	320.00	248.01	71.99	4,445		
14,000.00	11 268 00	15 192.00	11,569,00	67.67	69.97	179.99	3.7 10.01	-005.53	320.00	240.02	73.10	4.3/3		
14,700.00	11,200.00	13,102.00	11,000.00	07.82	00.62	11.9.99	3,810.81	-000.82	320.00	245.62	74.38	4.302		
14,800.00	11,268.00	15,282.00	11,588.00	68.99	69.98	179.99	3,916.81	-606.11	320.00	244.40	75.60	4.233		
14,900.00	11,268.00	15,382.00	11,588.00	70.16	71.16	179.99	4.016.81	-606.40	320.00	243.17	76.83	4.165		
15,000.00	11,268.00	15,482.00	11,588.00	71.35	72.34	179.99	4,116.81	-606.69	320.00	241.93	78.07	4.099		
15,100.00	11,268.00	15,582.00	11,588.00	72.54	73.53	179.99	4,216.81	-606.98	320.00	240.67	79.33	4.034		
15,200.00	11,268.00	15,682.00	11,588.00	73.75	74.73	179.99	4,316.81	-607.27	320.00	239.41	80.59	3.971		
15,300.00	11,268.00	15,782.00	11,588.00	74.96	75.93	179.99	4,416.81	-607.56	320.00	238.13	81.87	3.909		
			CC - Min	centre to ce	nter dista	ince or cove	rgent point. SI	- min sepa	aration fact	or, ES - m	nin ellipse s	eparation		

11/1/2017 4:41:19PM



Pro Directional Anticollision Report



Offset Site Error:

0.00 usft

. -----Company: Devon Energy Corp. Well 331H Local Co-ordinate Reference: Project: Eddy County, NM (NAD83) **TVD Reference:** GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Big Sinks Draw 25-24 Reference Site: GL 3332'+KB 26' @ 3358.00usft (Rig TBD) MD Reference: Site Error: 0.00 usft North Reference: Grid 331H **Reference Well: Survey Calculation Method:** Minimum Curvature Well Error: 0.00 usft 2.00 sigma Output errors are at **Reference Weilbore** ОН WellPlanner1 Database: Prelim Plan Reference Design: Offset TVD Reference: Reference Datum

Offset Design Big Sinks Draw 25-24 - 611H - OH - Prelim Plan

Reference	an. v-w	Offe	at	Semi Malor	Avia				Diet.				Offset Well Error:	0.00 usft
Measured	Vertical	Measurad	Vartical	Reference	Officer	Hichelde	Officet Wellbox		Detwoor	Retween	Mislaum	Concention		
Depth (usft)	Depth (usft)	Depth (usit)	Depth (usft)	(usft)	(usft)	Toolface (*)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor	Warning	
15,400.00	11,268.00	15,882.00	11,588.00	76.18	77.15	179.99	4.516.81	-607.85	320.00	236.84	83.16	3.848		
15,500.00	11,268.00	15,982.00	11,588.00	77,41	78.37	179.99	4,616.81	-608,14	320.00	235.55	84.45	3.789		
15,600.00	11,268.00	16,082.00	11,588.00	78.65	79.61	179.99	4,716.81	-608.43	320.00	234.24	85.76	3,731		
15,700.00	11,268.00	16,182.00	11,588.00	79.89	80.84	179.99	4,816.81	-608.72	320.00	232.93	87.07	3.675		
15,800.00	11,268.00	16,282.00	11,588.00	81.14	82.09	179.99	4,916.81	-609.01	320.00	231.61	88.39	3.620		
15,900.00	11,268.00	16,382.00	11,588.00	82.40	83.34	179.99	5,016.81	-609.30	320.00	230.28	89.72	3.567		
16,000.00	11,268.00	16,482.00	11,588.00	83.66	84.60	179.99	5,116.81	-609.59	320.00	228.94	91.06	3.514		
16,100.00	11,268.00	16,582.00	11,588.00	84.93	85.87	179.99	5,216.81	-609.88	320.00	227.59	92.41	3,463		
16,200.00	11,268.00	16,682.00	11,588.00	86.21	87.14	179.99	5,316.81	-610.17	320.00	226.24	93.76	3.413		
16,300.00	11,268.00	16,782.00	11,588.00	87.49	88.41	180.00	5,416.81	-610.46	320.00	224.88	95.12	3.364		
16,400.00	11,268.00	16,882.00	11,588.00	88.77	89.69	180.00	5,516.81	-610.75	320.00	223.52	96.48	3.317		
16,500.00	11,268.00	16,982.00	11,588.00	90.07	90.98	180.00	5,616.81	-611.04	320.00	222.15	97.85	3.270		
16,600.00	11,268.00	17,082.00	11,588.00	91.36	92.27	180.00	5,716.81	-611.33	320.00	220.77	99.23	3.225		
16,700.00	11,268.00	17,182.00	11,588.00	92.66	93.56	180.00	5,816.80	-611.62	320.00	219.39	100.61	3.181		
16,800.00	11,268.00	17,282.00	11,588.00	93.96	94.86	180.00	5,916.80	-611.91	320.00	218.00	102.00	3,137		
16,900.00	11,268.00	17,382.00	11,588.00	95.27	96.17	180.00	6,016.80	-612.20	320.00	216.61	103.39	3.095		
17,000.00	11,268.00	17,482.00	11,588.00	96.58	97.48	180.00	6,116.80	-612.49	320.00	215.21	104.79	3.054		
17,100.00	11,268.00	17,582.00	11,588.00	97.90	98.79	180.00	6,216.80	-612.78	320.00	213.80	106.20	3.013		
17,200.00	11,268.00	17,682.00	11,588.00	99.22	100.10	180.00	6,316.80	-613.07	320.00	212.40	107.60	2.974		
17,300.00	11,268.00	17,782.00	11,588.00	100.54	101.42	180.00	6,416.80	-613.36	320.00	210.99	109.01	2.935		
17,400.00	11,268.00	17,882.00	11,588.00	101.87	102.75	180.00	6,516.80	-613.65	320.00	209.57	110.43	2.898		
17,500.00	11,268.00	17,982.00	11,588.00	103.20	104.07	180.00	6,616.80	-613.94	320.00	208.15	111.85	2.861		
17,600.00	11,268.00	18,082.00	11,588.00	104.53	105.40	180.00	6,716.80	-614.23	320.00	206.72	113.28	2.825		
17,700.00	11,268.00	18,182.00	11,588.00	105.87	106.73	180.00	6,816.80	-614.52	320.00	205.30	114.70	2.790		
17,800.00	11,268.00	18,282.00	11,588.00	107.21	108.07	180.00	6,916.80	-614.81	320.00	203.86	116.14	2.755		
17,900.00	11,268.00	18,382.00	11,588.00	108.55	109.41	180.00	7,016.80	-615.10	320.00	202.43	117.57	2.722		
18,000.00	11,268.00	18,482.00	11,588.00	109.89	110,75	180.00	7,116.80	-615.39	320.00	200.99	119.01	2.689		
18,100.00	11,268.00	18,582.00	11,588.00	111.24	112.09	180.00	7,216.80	-615.68	320.00	199.55	120.45	2.657		
18,200.00	11,268.00	18,682.00	11,588.00	112.59	113.44	180.00	7,316.80	-615.97	320.00	198.10	121.90	2.625		
18,300.00	11,268.00	18,782.00	11,588.00	113.94	114.79	180.00	7,416.80	-616.26	320.00	196.66	123.35	2.594		
18,313.53	11,268.00	18,795.54	11,588.00	114.13	114.97	180.00	7,430.33	-616.30	320.00	196.46	123.54	2.590		



Anticollision Report



Offset Site Error:

0.00 usft

Devon Energy Corp. Company: Project: Eddy County, NM (NAD83) Big Sinks Draw 25-24 **Reference Site:** Site Error: 0.00 usft **Reference Well:** 331H Well Error: 0.00 usft **Reference Wellbore** ОН **Reference Design:** Prelim Plan

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference: Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset Design Big Sinks Draw 25-24 - 711H - OH - Prelim Plan

aurvey Progr	ram: ∪-M	MUTRUGM 0#		Comi Mal	Avia				D 1				Offset Well Error:	0.00 usit
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbor +N/-S	e Centre +E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(USπ)	(USA)	(usn)	(usn)	(ustt)	(USTC)	C	(usft)	(usft)	(usn)	(usit)	(ustt)			
0.00	0.00	0.00	0.00	0.00	0.00	89.69	0.32	60.03	60.03					
200.00	200.00	100.00	100.00	0.13	0.13	89.69	0.32	60.03	60.03	59.77	0.27	226.302		
300.00	300.00	300.00	300.00	0.49	0.49	69.69 89.69	0.32	60.03	60.03	58.33	1.50	35 330		
400.00	400.00	400.00	400.00	1.21	1.21	89.69	0.32	60.03	60.03	57.61	2.42	24.846		
500.00	500.00	500.00	500.00	1.57	1.57	89.69	0.32	60.03	60.03	56.90	3.13	19.161		
600.00	600.00	600.00	600.00	1.92	1.92	89.69	0.32	60.03	60.03	56.18	3.85	15.592		
700.00 800.00	700.00	700.00	700.00	2.28	2.28	89.69	0.32	60.03	60.03	55.46	4.57	13.145		
900.00	900.00	900.00	900.00	3.00	3.00	89.69	0.32	60.03	60.03	54.03	6.00	10.004		
1,000.00	1,000.00	1,000.00	1,000.00	3.36	3.36	89.69	0.32	60.03	60.03	53.31	6.72	8.936 CC	;	
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.72	164.76	0.32	60.03	60.45	53.02	7.43	8.138 ES		
1,200.00	1,199.99	1,200.01	1,199.99	4.06	4.08	165.08	0.32	60.03	61.72	53.58	8.13	7.588		
1,300.00	1 300 02	1,300.03	1,299.97	4.41	4.43	100.08	0.32	60.03	68.70	57.24	0.04	6.002		
1,400.00	1 499 84	1,400.08	1,399.92	5 11	5.15	166.98	0.32	60.03	70.61	60.35	10.26	6 881		
.,	.,	.,		•	0.10		0.01	00.00		00.00		0.001		
1,600.00	1,599.73	1,600.27	1,599.73	5.47	5.51	167.80	0.32	60.03	75.29	64.32	10.97	6.862		
1,700.00	1,699.56	1,700.44	1,699.56	5.82	5.87	168.64	0.32	60.03	80.84	69.16	11.68	6.919		
1,800.00	1,799.35	1,800.65	1,799.35	6.18	6.23	169.48	0.32	60.03	87.26	74.86	12.40	7.039		
2 000 00	1,099.11	2 001 14	1,099,11	6 90	6.95	170.20	0.32	60.03	94.15	87.22	13.11	7.180		
2,000.00	1,000.00	2,001.14	1,000.00	0.00	0.00	110.50	0.02	00.00	101.00	07.22	10.00	1.000		
2,100.00	2,098.62	2,101.38	2,098.62	7.27	7.31	171.52	0.32	60.03	107.96	93.42	14.54	7.425		
2,200.00	2,198.37	2,201.63	2,198.37	7.63	7.67	172.03	0.32	60.03	114.88	99.62	15.26	7.530		
2,300.00	2,298.13	2,301.87	2,298.13	7.99	8.03	172.49	0.32	60.03	121.81	105.84	15.97	7.626		
2,400.00	2,397.68	2,402.12	2,397.68	8.30	8.39	172.89	0.32	60.03	128.75	112.00	10.09	7.715		
2,000.00	2,457.04	2,302.30	2,497.04	0.72	0.74	173.20	0.32	60.03	133.09	110.20	17.40	1.190		
2,600.00	2,597.39	2,602.61	2,597.39	9.09	9.10	173.59	0.32	60.03	142.64	124.51	18.12	7.871		
2,700.00	2,697.15	2,702.85	2,697.15	9.45	9.46	173.89	0.32	60.03	149.59	130.75	18.84	7.940		
2,800.00	2,796.90	2,803.10	2,796.90	9.82	9.82	174.16	0.32	60.03	156.54	136.99	19.56	8.005		
2,900.00	2,896.66	2,903.34	2,896.66	10.19	10.18	174.41	0.32	60.03	163.50	143.23	20.27	8.065		
3,000.00	2,550.41	3,003.38	2,330.41	10.55	10.54	174.04	0.32	60.03	170.46	149.47	20.99	0.120		
3,100.00	3,096.17	3,103.83	3,096.17	10.92	10.90	174.85	0.32	60.03	177.43	155.72	21.71	8,173		
3,200.00	3,195.92	3,204.08	3,195.92	11.29	11.26	175.04	0.32	60.03	184.39	161.97	22.43	8.222		
3,300.00	3,295.68	3,304.32	3,295.68	11.65	11.62	175.23	0.32	60.03	191.36	168.22	23.15	8.267		
3,400.00	3 495 19	3,404.57	3,395.43	12.02	12.34	175.59	0.32	60.03	205 30	180.72	23.00	8.311 8.351		
	0,.00.70	0,001.01	0,100.10	12.00	.2.04	110.00	0.02	00.00	200.00	100.12	24.00	0.001		
3,600.00	3,594.94	3,605.06	3,594.94	12.76	12.70	175.70	0.32	60.03	212.28	186.97	25.30	8.390		
3,700.00	3,694.70	3,705.30	3,694.70	13.13	13.06	175.83	0.32	60.03	219.25	193.23	26.02	8.426		
3,800.00	3,794.45	3,805.55	3,794.45	13.49	13.42	175.96	0.32	60.03	226.23	199.49	26.74	8.460		
4 000 00	3 993 95	4 006 04	3,094.21	14 23	14.13	176.00	0.32	60.03	233.20	203.74	27.40	6.493 8.524		
	0,000.00	4,000.04	0,000.00	14.20	14.10		0.02	00.00	240.10	212.00	20.10	0.014		
4,100.00	4,093.72	4,106.28	4,093.72	14.60	14.49	176.30	0.32	60.03	247.16	218.26	28.90	8.553		
4,200.00	4,193.47	4,206.53	4,193.47	14.97	14.85	176.41	0.32	60.03	254.14	224.52	29.62	8.581		
4,300.00	4,293.23	4,293.23	4,293.23	15.34	15.16	176.50	0.32	60.03	261.12	230.83	30.29	8.621		
4,400.00	4,392.99	4,394.97	4,394.97	15.71	10.02	176.03	-0.12	59.00	201.10	230.70	31.00	8.636		
4,000.00	7,736.14	4,430.34	4,450.55	10.00	15.00	110.04	-0.12	30.40	213.00	241.09	31.71	0.020		
4,600.00	4,592.50	4,599.00	4,598.96	16.45	16.21	177.13	-0.69	56.26	278.66	246.24	32.42	8.596		
4,700.00	4,692.25	4,701.12	4,701.03	16.81	16.55	177.49	-1.49	53.25	282.93	249.81	33.12	8.542		
4,800.00	4,792.01	4,803.28	4,803.12	17.18	16.90	177.93	-2.54	49.36	286.43	252.61	33.83	8.468		
4,900.00	4,891.76	4,905.47	4,905.19	17.55	17.25	178.44	-3.81	44.58	289.16	254.63	34.53	8.374		
5,000.00	4,991.92	50.1UU,G	5,007.23	17.92	17.60	179.02	-5.33	38.93	291.14	255.90	35.24	8.263		
5,100.00	5,091.27	5,109.89	5,109.21	18.29	17.95	179.69	-7.07	32.39	292.36	256.42	35.94	8.135		
			CC - Min	centre to ce	enter dista	ance or cove	rgent point S	F - min sen:	aration fact	or ES - n	nin ellinse s	enaration		
										, 0				

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Anticollision Report



0.00 usft

0.00 usft

Devon Energy Corp. Company: Local Co-ordinate Reference: Eddy County, NM (NAD83) **Project:** TVD Reference: Big Sinks Draw 25-24 **Reference Site: MD Reference:** Site Error: 0.00 usft North Reference: 331H **Reference Well: Survey Calculation Method:** 0.00 usft Well Error: Output errors are at **Reference Wellbore** OH Database: **Reference Design:** Prelim Plan **Offset TVD Reference:**

Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Peference Datum

Reference Datum Offset Site Error: **Offset Design** Big Sinks Draw 25-24 - 711H - OH - Prelim Plan 0-MWD+HDGM Survey Program: Offset Well Error: Reference Offset Semi Malor Axis Distance Warning Measured Vertical Measured Vertical Reference Offset Highside **Offset Wellbore Centre** Betw Between Minimum Separation веп Depth Depth Separation Factor Depth Depth Toolface Centres Ellipses +N/-S +E/-W (usft) (usft) (usft) (usft) (usft) (usft) ൗ (usft) (usft) (usft) (usft) (usft) 5,200.00 5,191.03 5.212.08 5,211.11 -179.56 7.992 18.66 18.30 -9.05 24.98 292.86 256.21 36.64 5,300.00 5,290.78 -178.72 37.35 7.836 5.314.23 5.312.91 19.03 18.66 -11.27 16.70 292.64 255.29 7.667 5.400.00 5.390.54 5.416.33 5.414.57 19.40 19.01 -177.78 -13.72 7.54 291.72 253.67 38.05 5.500.00 5.490.29 5 518.37 5.516.07 1977 19.37 -176 74 -16 40 -2 48 290.14 251 38 38 75 7.487 5.600.00 5.590.05 5.620.32 5.617.40 20.14 19.73 -175.59 -19.31 -13.37 287.91 248.45 39.46 7.296 5,700.00 5,689.80 5,722.17 5,718.53 20.51 7.097 20.09 -174.32 -22.46 -25.11 285.08 244.91 40.17 5,800.00 6.891 5,789.56 5.823.91 5.819.43 20.88 20.45 -172.91 -25.83 -37.71 281.67 240.80 40.88 5,900.00 5,925.52 5,920.07 21.25 277,74 236.15 6.678 5,889.31 20.82 -171.36 -29.42 -51.16 41.59 6.468 6.000.00 5.989.07 6 025.11 6 018 67 21.62 21 18 -169 73 -33.06 -64.76 273 68 231.36 42.31 6 100 00 6 088 82 6 124 72 6 117 28 21.99 21.54 -168.06 -36.70 -78 35 269.84 226 80 43.05 6.269 6.200.00 6.188.58 6 224 33 6.215.89 22.36 21.90 -166.34 -40.33 -91.95 266.25 222.47 43.78 6.082 -164.58 6,300.00 6.288.33 6,323.94 6,314.50 22.73 22.26 -43.97 -105.55 262.90 218.38 44.52 5.906 6.388.09 6.423.55 6.413.11 -162.77 -119.14 259.80 45.26 5.740 6.400.00 23.10 22.63 -47.61 214.54 210.97 46.00 5.586 6.500.00 6.487.84 6.523.16 6.511.72 23.47 23.00 -160.93-51.25 -132.74 256.97 6 600 00 6.587.60 6 622 77 6.610.33 23.84 23.37 -159 04 -54 88 -146 34 254 42 207 67 46 75 5 4 4 2 6.700.00 6,687.35 6,722.38 6,708.94 24.21 23.74 -157.12 -58.52 -159.94 252.15 204.65 47 50 5.308 6,807.55 250.17 5.184 6,800.00 6,787.11 6.821.99 24.58 24,11 -155 16 -62.16 -173.53 201.92 48.26 5.070 6,900.00 6.886.86 6.921.60 6,906,16 -153.18 -187,13 248.49 49.02 24.95 24.48 -65.79 199.48 49.78 7.000.00 6.986.62 7 021 21 7 004 77 25.32 24 86 -151 17 -69 43 -200.73 247.12 197.34 4.964 7,120.82 7,100.00 7.086.38 7.103.38 25.69 25 23 -149 14 -73.07 -214 32 246 05 195 51 50 54 4.868 7,200.00 7.186.13 7.220.43 7 201 99 26.06 25.61 -147 10 -76.71 -227 92 245.29 193.99 51.31 4.781 7,300.00 7,285.89 7,320.04 7,300.60 26.43 25.98 -145.05 -80.34 -241.52 244.86 192.78 52.08 4.702 7.388.10 7.407.80 -253.50 244.73 52.76 4.639 7.373.77 7.387.48 26.76 26.32 -143.23 -83.55 191.98 -255.12 191.89 7,400.00 7.385.64 7.419.65 7.399.21 26.80 26.36 -142.99 -83.98 244.73 52.85 4.631 7 500 00 7 485 40 7 519 26 7 497 83 27 17 26 74 -140.93 -87 62 -268 71 244 93 191 31 53 62 4.568 7.600.00 7.585.15 7,618.87 7.596.44 27.54 27.12 -138.88 -91.26 -282.31 245.45 191.05 54 39 4 512 7,700.00 7.684.91 7,718.48 7.695.05 27.91 27.50 -136.84 -94.89 -295.91 246.27 191.11 55.17 4.464 4.423 7,800.00 7,784.66 7,818.09 7,793.66 28.28 -134.82 -98.53 -309.50 247.42 191.47 55.94 27.88 7.900.00 7.884.42 7.917.70 7.892.27 28.65 -132.82 -102.17 -323.10 248.87 192.15 56.72 4.388 28.26 4.359 8.000.00 7.984.17 8.017.31 7.990.88 29.02 28.65 -130.84 -105.80 -336.70 250.62 193.13 57.49 8.100.00 8.083.93 8.116.92 8.089.49 29.39 29.03 -128.89 -109.44 -350.30 252.67 194.40 58.26 4.337 8,200.00 8,183.68 8,216.53 8,188.10 29.76 29.42 -126.98 -113.08 -363.89 255.00 195.97 59.04 4.319 8,300.00 8,283,44 8,316.14 8.286.71 30.13 29.80 -125.10 -116.72 -377.49 257.62 197.82 59.81 4.308 8,415.75 8,385.32 8,400.00 8,383.19 30.50 -123.26 -391.09 260.51 199.94 60.58 4.301 30.19 -120.35 8,500.00 8,482.95 8,515.36 8,483.93 30.57 -121.46 -123.99 -404.69 263.67 202.33 61.34 4.298 SF 30.87 8,600.00 8,582.70 4.300 8,614,97 8.582.54 31.24 30.96 -119.71-127.63 -418.28 267.08 204.97 62.11 8,700.00 8.682.46 8714.58 8 681 15 31.61 31.35 -118.00 -131 26 -431.88 270.73 207.86 62.87 4.306 8,800.00 8,782.21 8,814.19 8,779.76 31.98 31.73 -116.34 -134.90 -445.48 274.62 210.99 63.64 4.316 8,900.00 8,881.97 8,913.80 8,878.37 32.35 32.12 -114.73 -138.54 -459.07 278.74 214.34 64.40 4.329 9,000.00 8,976.98 -142.18 4.345 8,981.72 9,013.41 32.72 32.51 -113.17 -472.67 283.07 217.91 65.15 9,100.00 9,081.48 9,113.02 9,075.59 33.09 32.90 -111.65 -145.81 486.27 287.60 221.69 65.91 4.364 4.385 9.200.00 9.181.23 9.212.63 9.174.20 33.46 33.29 -110.18 -149.45 -499.87 292.34 225.67 66.66 9.300.00 9,280,99 9 312 24 9,272.81 33.84 33 68 -108 76 -153.09 -513.46 297.25 229.84 67.42 4 4 0 9 9,380.74 9,411.85 34.07 9,400.00 9,371.42 -107.38 -156.73 -527.06 302.35 234.18 68.17 4.435 34.21 9.500.00 9.480.50 9.511.65 9.470.23 34.58 34.46 -106.05 -160.36 -540.67 307.61 238.69 68.92 4,463 9,600.00 9,580.25 9,612.72 9,570.43 -163.76 -553.36 243.06 4.488 34.95 34.86 -104.96 312.74 69.68 9.700.00 9 680 01 9714.00 9 671 07 35 32 35 25 -104 20 -166 70 -564 36 317 49 247.06 70 44 4 508 9,800.00 9,779.76 9,815.44 9,772.05 35.69 35.63 -103.77 -169.19 -573.65 321.80 250.61 71.19 4.520 9,900.00 9.879.52 9,916.97 9.873.28 36.06 36.00 -103.66 -171.21 -581.23 325.62 253.69 71.94 4.526 10.000.00 9,979.28 10,018.53 9,974.65 36.43 36.37 -103.85 -172.78 -587.07 328.96 256.27 72.68 4.526 10.100.00 10.079.07 10.120.07 10 076.11 36.80 36.73 -104.26 -173.87 -591.17 331.65 258 23 73 42 4.517 10,200.00 10,178.96 10,221.61 10,177.62 37.16 37.09 -104.65 -174.51 -593.54 333.46 259.32 74.14 4.498

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CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Devon Energy Corp. Company: Project: Eddy County, NM (NAD83) Big Sinks Draw 25-24 **Reference Site:** Site Error: 0.00 usft **Reference Well:** 331H Well Error: 0.00 usft **Reference Wellbore** он **Reference Design:** Prelim Plan

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference: Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset De	sign	Big Sinl	ks Draw 2	5-24 - 711H	I - OH - F	Prelim Plan							Offset Site Error:	0.00 usft
Survey Prog	nam: 0-M	WD+HDGM											Offset Well Error:	0.00 usft
Refer	Notice .	Offs	et Mantiaat	Semi Major	Axis	10-6-14-			Dista	nce		•		
Depth (usft)	Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	(usfi)	(usft)	Highside Tootface (°)	Uffset Wellbor +N/-S (usft)	e Centre +E/-W (usft)	Between Centres (usit)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,300.00	10,278.92	10,322.92	10,278.92	37.52	37.44	-105.04	-174.68	-594.18	334.37	259.52	74.85	4.467		
10,400.00	10,378.91	10,422.91	10,378.91	37.87	37.78	-105.23	-174.68	-594.18	334.68	259.13	75.54	4.430		
10,500.00	10,478.91	10,522.91	10,478.91	38.21	38.12	179.81	-174.68	-594.18	334.68	258.46	76.23	4.391		
10,600.00	10,578.91	10,622.91	10,578.91	38.55	38.46	179.81	-174.68	-594.18	334.68	257.77	76.91	4.352		
10,700.00	10,678.91	10,722.91	10,678.91	38.89	38.80	179.81	-174.68	-594.18	334.68	257.09	77.59	4.314		
10,800.00	10,778.61	10,822.61	10,778.61	39.23	39.14	179.97	-174.68	-594.18	340.81	262.54	78.27	4.354		
11 000.00	10,070.77	11 011 44	10 967 44	39.89	39.78	179.97	-174.08	-594.10	403.58	324.02	79.56	5.073		
11,100.00	11.050.83	11,105.17	11.050.83	40.18	40.10	179.97	-174.68	-594.18	458.54	378.39	80.15	5.721		
11,200.00	11,123.41	11,167.41	11,123.41	40.45	40.31	179.97	-174.68	-594.18	527.14	446.56	80.58	6.542		
11,300.00	11,182.98	11,226.97	11,182.98	40.71	40.52	179.97	-174.68	-594.18	607.31	526.36	80.95	7.502		
11,400.00	11,227.72	12,332.68	11,838.00	40.98	42.74	179.98	521.92	-596.21	610.28	561.58	48.71	12.529		
11,500.00	11,258.27	12,428.38	11,838.00	41.29	43.02	179.99	617.62	-596.48	581.73	532.71	49.02	11.868		
11,600.00	11,267.77	12,527.59	11,838.00	41.62	43.35	179.99	716.83	-596.77	570.23	520.88	49.34	11.557		
11,690.25	11,269.17	12,617.83	11,838.00	41.95	43.69	179.99	807.06	-597.04	568.83	519.17	49.66	11.455		
11,700.00	11,268.00	12,627.59	11,838.00	41.98	43.73	179.99	816.83	-597.06	570.00	520.31	49.70	11.470		
11,800.00	11,208.00	12,727.59	11,838.00	42.38	44.16	179.99	916.83	-597.35	570.00	519.91	50.09	11.379		
12 000 00	11 268 00	12,027.59	11 838.00	42.03	44.03	179.99	1 116 82	-597.05	570.00	519.40	51.03	11.270		
12,100.00	11.268.00	13.027.59	11,838.00	43.86	45.69	179.99	1 216 82	-598 23	570.00	518.44	51.56	11.055		
12,200.00	11,268.00	13,127.59	11,838.00	44.43	46.27	179.99	1,316.82	-598.52	570.00	517.86	52.14	10.933		
12,300.00	11,268.00	13,227.59	11,838.00	45.05	46.90	179.99	1,416.82	-598.81	570.00	517.25	52.75	10.806		
12,400.00	11,268.00	13,327.59	11,838.00	45.70	47.56	179.99	1,516.82	-599.10	570.00	516.60	53.40	10.673		
12,500.00	11,268.00	13,427.59	11,838.00	46.38	48.25	179.99	1,616.82	-599.39	570.00	515.90	54.10	10.537		
12,600.00	11,268.00	13,527.59	11,838.00	47.10	48.97	179.99	1,716.82	-599.68	570.00	515.17	54.83	10.397		
12,700.00	11,268.00	13,627.59	11,838.00	47.86	49.73	179.99	1,816.82	-599.97	570.00	514.41	55.59	10.254		
12,800.00	11,268.00	13,727.59	11,838.00	48.64	50.52	179.99	1,916.82	-600.26	570.00	513.61	56.39	10.109		
12,900.00	11,268.00	13,827.59	11,838.00	49.46	51.33	179.99	2,016.82	-600.55	570.00	512.79	57.21	9.962		
13,000.00	11,200.00	14 027 50	11,838.00	50.30	52.18	179.99	2,116.82	-600.85	570.00	511.93	58.07	9.815		
13,200.00	11,268.00	14,127.59	11,838.00	52.06	53.94	179.99	2,216.82	-601.43	570.00	510.12	58.96 59.88	9.667 9.519		
13,300.00	11,268.00	14,227.59	11,838.00	52.98	54.86	179.99	2,416.82	-601.72	570.00	509.18	60.83	9.371		
13,400.00	11,268.00	14,327.59	11,838.00	53.93	55.80	179.99	2,516.82	-602.01	570.00	508.21	61.79	9.224		
13,500.00	11,268.00	14,427.59	11,838.00	54.89	56.76	179.99	2,616.82	-602.30	570.00	507.21	62.79	9.078		
13,600.00	11,268.00	14,527.59	11,838.00	55.88	57.74	179.99	2,716.82	-602.59	570.00	506.19	63.81	8.933		
13,700.00	11,268.00	14,627.59	11,838.00	56.88	58.74	179.99	2,816.82	-602.88	570.00	505.16	64.85	8.790		
13,800.00	11,268.00	14,727.59	11,838.00	57.91	59.76	179.99	2,916.82	-603.17	570.00	504.09	65.91	8.649		
13,900.00	11,268.00	14,827.59	11,838.00	58.95	60.79	179.99	3,016.82	-603.46	570.00	503.01	66.99	8.509		
14,000.00	11 268 00	14,927.59	11,838.00	61.09	61.64	179.99	3,116.82	-603.75	570.00	501.91	68.09	8.3/2		
14,200.00	11,268.00	15,127.59	11,838.00	62.17	63.99	179.99	3,316.82	-604.04 -604.34	570.00	499.66	70.34	8.237 8.104		
14,300.00	11,268.00	15,227.59	11,838.00	63.27	65.09	179.99	3,416.82	-604.63	570.00	498.51	71.49	7.973		
14,400.00	11,268.00	15,327.59	11,838.00	64.39	66.20	179.99	3,516.81	-604.92	570.00	497.34	72.66	7.845		
14,500.00	11,268.00	15,427.59	11,838.00	65.52	67.33	179.99	3,616.81	-605.21	570.00	498.16	73.84	7.719		
14,600.00	11,268.00	15,527.59	11,838.00	66.67	68.46	179.99	3,716.81	-605.50	570.00	494.98	75.04	7.596		
14,700.00	11,268.00	15,627.59	11,838.00	67.82	69.61	179.99	3,816.81	-605.79	570.00	493.75	76.25	7.476		
14,800.00	11,268.00	15,727.59	11,838.00	68.99	70.77	179.99	3,916.81	-606.08	570.00	492.53	77.47	7.358		
14,900.00	11,268.00	15,827.59	11,838.00	70.16	71.93	179.99	4,016.81	-606.37	570.00	491.30	78.70	7.242		
15,000.00	11,268.00	15,927.59	11,838.00	71.35	73.11	179.99	4,116.81	-606.66	570.00	490.05	79.95	7.129		
15,100.00	11,268.00	16,027.59	11,838.00	72.54	74.30	179.99	4,216.81	-606.95	570.00	488.79	81.21	7.019		
15,200.00	11,268.00	16,127.59	11,838.00	73.75	75.50	179.99	4,316.81	-607.24	570.00	487.52	82.48	6.911		
	11,200.00	10,221.09	11,030.00	/4.90	10.70	11.8'88	4,410.01	-007.53	570.00	488.24	83.76	0.805		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Offset Site Error:

0.00 usft

Company: Devon Energy Corp. Eddy County, NM (NAD83) Project: **Reference Site:** Big Sinks Draw 25-24 Site Error: 0.00 usft **Reference Well:** 331H Well Error: 0.00 usft **Reference Wellbore** он **Reference Design:** Prelim Plan

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference: Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Offset Design Big Sinks Draw 25-24 - 711H - OH - Prelim Plan

Survey Prog	nam: 0-1	/WD+HDGM											Offset Well Error:	0.00 usft
Refer	ence	Offs	et	Semi Major	Axis				Dista	ince				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toofface	Offset Wellbor +N/-S	s Centre +E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(1)	(usft)	(usft)	(usft)	(usft)	(usft)			
15,400.00	11,268.00	16,327.59	11,838.00	76.18	77.92	179.99	4,516.81	-607.83	570.00	484.95	85.05	6.702		
15,500.00	11,268.00	16,427.59	11,838.00	77.41	79.14	179.99	4,616.81	-608.12	570.00	483.66	86.34	6.601		
15,600.00	11,268.00	16,527.59	11,838.00	78.65	80.37	179.99	4,716.81	-608.41	570.00	482.35	87.65	6.503		
15,700.00	11,268.00	16,627.59	11,838.00	79.89	81.61	179.99	4,816.81	-608.70	570.00	481.03	88.97	6.407		
15,800.00	11,268.00	16,727.59	11,838.00	81.14	82.85	179.99	4,916.81	-608.99	570.00	479.71	90.29	6.313		
15,900.00	11,268.00	16,827.59	11,838.00	82.40	84.10	179.99	5,016.81	-609.28	570.00	478.38	91.62	6.221		
16,000.00	11,268.00	16,927.59	11,838.00	83.66	85.36	179.99	5,116.81	-609.57	570.00	477.04	92.96	6.132		
16,100.00	11,268.00	17,027.59	11,838.00	84.93	86.62	180.00	5,216.81	-609.86	570.00	475.69	94.31	6.044		
16,200.00	11,268.00	17,127.59	11,838.00	86.21	87.89	180.00	5,316.81	-610.15	570.00	474.34	95.66	5.959		
16,300.00	11,268.00	17,227.59	11,838.00	87.49	89.16	180.00	5,416.81	-610.44	570.00	472.98	97.02	5.875		
16,400.00	11,268.00	17,327.59	11,838.00	88.77	90.44	180.00	5,516.81	-610.73	570.00	471.61	98.39	5.794		
16 500 00	11 268 00	17 427 59	11 838 00	90.07	91 72	180.00	5 6 1 6 8 1	-611.03	570.00	470 24	99.76	5714		
16 600 00	11 268 00	17 527 59	11 838 00	91.36	93.01	180.00	5 716 81	-611.32	570.00	468 87	101 13	5 636		
16 700 00	11 268 00	17 627 59	11 838 00	92.66	94.30	180.00	5 816 80	-611.61	570.00	467 48	102 52	5 560		
16 800 00	11 268 00	17 727 59	11 838 00	93.96	95.60	180.00	5 916 80	-611 90	570.00	466.09	103.91	5 486		
16,900.00	11 268 00	17 827 59	11 838 00	95.27	96.90	180.00	6 016 80	-612.19	570.00	464 70	105.30	5.413		
10,000.00		11,021.00	11,000.00	00.27	00.00		0,010.00	0.2.10	070.00	404.10	100.00	0.110		
17,000.00	11,268.00	17,927.59	11,838.00	96.58	98.21	180.00	6,116.80	-612.48	570.00	463.30	106.70	5.342		
17,100.00	11,268.00	18,027.59	11,838.00	97.90	99.52	180.00	6,216.80	-612.77	570.00	461.90	108.10	5.273		
17,200.00	11,268.00	18,127.59	11,838.00	99.22	100.83	180.00	6,316.80	-613.06	570.00	460.49	109.51	5.205		
17,300.00	11,268.00	18,227.59	11,838.00	100.54	102.15	180.00	6,416.80	-613.35	570.00	459.08	110.92	5.139		
17,400.00	11,268.00	18,327.59	11,838.00	101.87	103.47	180.00	6,516.80	-613.64	570.00	457.66	112.34	5.074		
17,500.00	11,268.00	18,427.59	11,838.00	103.20	104.80	180.00	6,616.80	-613.93	570.00	456.24	113.76	5.011		
17,600.00	11,268.00	18,527.59	11,838.00	104.53	106.12	180.00	6,716.80	-614.22	570.00	454.82	115.18	4.949		
17,700.00	11,268.00	18,627.59	11,838.00	105.87	107.45	180.00	6,816.80	-614.52	570.00	453.39	110.01	4.888		
17,800.00	11,268.00	18,727.59	11,838.00	107.21	108.79	180.00	6,916.80	-614.81	570.00	451.96	118.04	4.829		
17,900.00	11,268.00	18,827.59	11,838.00	108.55	110.12	180.00	7,016.80	-615.10	570.00	450.53	119.47	4.//1		
18.000.00	11.268.00	18.927.59	11.838.00	109.89	111.46	180.00	7.116.80	-615.39	570.00	449.09	120.91	4,714		
18,100.00	11,268.0	19.027.59	11.838.00	111.24	112.81	180.00	7.216.80	-615.68	570.00	447.65	122.35	4.659		
18,200.00	11,268.0	19,127.59	11.838.00	112.59	114,15	180.00	7,316.80	-615.97	570.00	446.20	123.80	4.604		
18,300.00	11,268.0	19,227.59	11,838.00	113.94	115.50	180.00	7,416.80	-616.26	570.00	444.75	125.25	4.551		
18,313.53	11,268.0	19,241.12	11,838.00	114.13	115.68	180.00	7,430.33	-616.30	570.00	444.56	125.44	4.544		
			-											



Pro Directional Anticollision Report



Devon Energy Corp. Company: Project: Eddy County, NM (NAD83) Big Sinks Draw 25-24 **Reference Site:** 0.00 usft Site Error: **Reference Well:** 331H 0.00 usft Well Error: он **Reference Wellbore Reference Design:** Prelim Plan

Local Co-c TVD Refer MD Refere North Refe Survey Ca Output err Database: Offect TVC

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference: Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Reference Depths are relative to GL 3332'+KB 26' @ 3358.00usft (Rig Offset Depths are relative to Offset Datum Central Meridian is -104.3333333 Coordinates are relative to: 331H Coordinate System is US State Plane 1983, New Mexico Eastern Zone Grid Convergence at Surface is: 0.32°





Anticollision Report



Company: Devon Energy Corp. Eddy County, NM (NAD83) Project: Big Sinks Draw 25-24 **Reference Site:** Site Error: 0.00 usft **Reference Well:** 331H 0.00 usft Well Error: **Reference Wellbore** ОН Prelim Plan **Reference Design:**

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Output errors are at Database: Offset TVD Reference: Well 331H GL 3332'+KB 26' @ 3358.00usft (Rig TBD) GL 3332'+KB 26' @ 3358.00usft (Rig TBD) Grid Minimum Curvature 2.00 sigma WellPlanner1 Reference Datum

Reference Depths are relative to GL 3332'+KB 26' @ 3358.00usft (Rig Offset Depths are relative to Offset Datum Central Meridian is -104.3333333

Coordinates are relative to: 331H Coordinate System is US State Plane 1983, New Mexico Eastern Zone Grid Convergence at Surface is: 0.32°



1. Geologic Formations

TVD of target	11,268	Pilot hole depth	N/A
MD at TD:	18,313	Deepest expected fresh water:	

Basin

Formation	Depth (TVD)	Water/Mineral Bearing/	Hazards*	
	from KB	Target Zone?		
Rustler	933			
Salado	1253			
Base of Salt	4303			
Delaware	4338			
Bell Canyon	4370			
Cherry Canyon	5330			
Brushy Canyon	6720			
1 st Bone Spring Lime	8364			
3 rd Bone Spring Sand	11268			

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Hole	Casin	g Interval	Csg.	Weight	Grade	Conn.	SF	SF	SF
Size	From	То	Size	(lbs)			Collapse	Burst	Tension
17.5"	0	958	13.375"	48	H40	STC	1.74	2.45	4.13
12.25"	0	4403	9.625"	40	J55	LTC	1.19	1.42	3.98
8.75"	0	18313	5.5"	17	P110	BTC	1.5	1.3	3.21
				BLM Min	imum Safe	ty Factor	1.125	1	1.6 Dry
						•			1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y

Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide	Y
justification (loading assumptions, casing design criteria).	
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back	
500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes are there two strings cemented to surface?	
(For 2 string wells) If yes is there a contingency casing if lost circulation occurs?	
(1 of 2 string words) if yes, is there a contingency casing it lost chedilation occurs.	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H20 gal/s k	500# Comp. Strengt h (hours)	Slurry Description		
Surf.	745	14.8	1.33	6.32	6	Lead: Class C Cement + 0.125 lbs/sack Poly-F-Flake		
Inter.	775	12.9	1.85	9.81	14	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sks Poly-E-Flake		
	270	14.8	1.33	6.32	6	Tail: Class C Cement + 0.125 lbs/sack Poly-F-Flake		
Prod.	658	9	3.27	13.5	21	Lead: Tuned Light Cement		
	1835	14.5	1.2	5.31	25	Tail: (50:50) Clas H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite		

Casing String	TOC	% Excess	
13-3/8" Surface	0'	50%	
9-5/8" Intermediate	0'	30%	
5-1/2" Production	4203*	25%	

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing.	See attached for
IN	schematic.	

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Туре		~	Tested to:
			An	nular	x	50% of working pressure
			Blin	d Ram		
12-1/4"	13-5/8"	5M	Pip	e Ram		514
			Dout	ole Ram	x	5141
			Other*			
			An	nular	x	50% of working pressure
	12 5 (0)	514	Blind Ram			
0 2 /47			Pipe Ram			
0-3/4	13-3/8	51 VI	Dout	ole Ram	x	5M
			Other *	_		
			An	nular		
			Blin	d Ram		
			Pip	e Ram		
	1		Double Ram			
			Other *			

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other

accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2.
	On Exploratory wells or on that portion of any well approved for a 5M BOPE system or
	greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in
	accordance with Onshore Oil and Gas Order #2 III.B.1.i.
	A variance is requested for the use of a flexible choke line from the BOP to Choke
Y	Manifold. See attached for specs and hydrostatic test chart.
	Y Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after
	installation on the surface casing which will cover testing requirements for a maximum of
	30 days. If any seal subject to test pressure is broken the system must be tested.
	Deven and a second is a multi-hand wellback accombly. This accombly will only be tested
	Devon proposes using a multi-bowl wellnead assembly. This assembly will only be tested
	when instance on the surface casing. Withinum working pressure of the blowout
	casing shoe shall be 5000 (5M) nsi
	\circ Wellbead will be installed by wellbead representatives
	• If the welding is performed by a third party, the wellhead representative will
	monitor the temperature to verify that it does not exceed the maximum
	temperature of the seal.
	• Wellhead representative will install the test plug for the initial BOP test.
1	• Wellhead company will install a solid steel body pack-off to completely isolate
	the lower head after cementing intermediate casing. After installation of the
	packoff, the pack-off and the lower flange will be tested to 5M, as shown on the
	attached schematic. Everything above the pack-off will not have been altered
	whatsoever from the initial nipple up. Therefore the BOP components will not be
	retested at that time.
	• If the cement does not circulate and one inch operations would have been possible
	with a standard wellhead, the well head will be cut and top out operations will be
	conducted.
	• Devon will pressure test all seals above and below the mandrel (but still above the
ł	casing) to full working pressure rating.
	Onshore Order #2
	After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum
	rating of 5M will be installed on the wellhead system and will undergo a 250 psi low
	pressure test followed by a 5,000 psi high pressure test. The 5,000 psi high and 250 psi.
	Low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2.
	If the well is not complete within 30 days of this BOP test, another full BOP test will be
	conducted, as per Onshore Order #2.

After running the 9-5/8' intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 5M will already be installed on the wellhead.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a Kelly cock, floor safety valve, choke lines, and choke manifold rated at 5,000 psi WP.

Devon's proposed wellhead manufactures will be EMC Technologies, Cactus Wellhead, or Cameron.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 5,000 psi WP.

5. Mud Program

Depth		Туре	Weight (ppg)	Viscosity	Water Loss
From	То				
0	958	FW Gel	8.5-9.0	28-34	N/C
958	4403	Saturated Brine	10.0-11.0	28-34	N/C
4403	18313	Cut Brine	8.5-9.3	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain	PVT/Pason/Visual Monitoring
of fluid?	

6. Logging and Testing Procedures

Logging, Coring and Testing.

X	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole).
	Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Add	itional logs planned	Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
Х	CBL	Production casing
Х	Mud log	KOP to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4994 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

 N
 H2S is present

 Y
 H2S Plan attached

8. Other facets of operation

Is this a walking operation? No. Will be pre-setting casing? No.

Attachments _x_ Directional Plan ____ Other, describe

devon

Commitment Runs Deep



Design Plan Operation and Maintenance Plan Closure Plan

SENM - Closed Loop Systems June 2010

I. Design Plan

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

II. Operations and Maintenance Plan

Primary Shakers: The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

Mud Cleaner: The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.



Centrifuges: The centrifuges can be one or two in number depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependent on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds ultra fine solids into a mass that is within the centrifuge operating design. The

dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

Process Tank: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

III. Closure Plan

A maximum 340' X 340' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.

5

A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi.

- Wellhead will be installed by wellhead representatives.
- If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- Wellhead representative will install the test plug for the initial BOP test.
- Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 5M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time.
- If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted.
- Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating.
- Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2.

After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 5,000 psi high pressure test. The 5,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2.

After running the 9-5/8' intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 5M will already be installed on the wellhead.

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Devon's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron.



1. Geologic Formations

TVD of target	11,268	Pilot hole depth	N/A
MD at TD:	18,313	Deepest expected fresh water:	

Basin

Formation	Depth (TVD)	Water/Mineral Bearing/	Hazards*
	trom KB	larget Zone?	
Rustler	933		
Salado	1253		
Base of Salt	4303		
Delaware	4338		
Bell Canyon	4370		
Cherry Canyon	5330		
Brushy Canyon	6720		
1 st Bone Spring Lime	8364		
3 rd Bone Spring Sand	11268		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Hole	Casing Interval		Csg.	Weight	Grade	Conn.	SF	SF	SF
Size	From	То	Size	(lbs)			Collapse	Burst	Tension
17.5"	0	958	13.375"	48	H40	STC	1.74	2.45	4.13
12.25"	0	4403	9.625"	40	J55	LTC	1.19	1.42	3.98
8.75"	0	18313	5.5"	17	P110	BTC	1.5	1.3	3.21
	•	• • • • • •		BLM Min	imum Safet	y Factor	1.125	1	1.6 Dry
						-			1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y

Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide	Y
justification (loading assumptions, casing design criteria).	
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching	Y
the collapse pressure rating of the casing?	
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back	
500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
	N
Is well located in high Cave/Karst?	<u>IN</u>
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
La suell la satad in anitiaal Cassa/Warrat2	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H20 gal/s k	500# Comp. Strengt h (hours)	Slurry Description
Surf.	745	14.8	1.33	6.32	6	Lead: Class C Cement + 0.125 lbs/sack Poly-F-Flake
Inter.	775	12.9	1.85	9.81	14	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sks Poly-E-Flake
	270	14.8	1.33	6.32	6	Tail: Class C Cement + 0.125 lbs/sack Poly-F-Flake
Prod.	658	9	3.27	13.5	21	Lead: Tuned Light Cement
	1835	14.5	1.2	5.31	25	Tail: (50:50) Clas H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite

Casing String	TOC	% Excess	
13-3/8" Surface	0'	50%	
9-5/8" Intermediate	0'	30%	
5-1/2" Production	4203'	25%	

4. Pressure Control Equipment

N A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Т	уре	 ✓ 	Tested to:
			An	nular	x	50% of working pressure
			Blin	d Ram		
12-1/4"	13-5/8"	5M	Pip	e Ram		514
			Dout	le Ram	x	5101
			Other*			
			An	nular	x	50% of working pressure
	13-5/8"	5M	Blind Ram			
0.2/4%			Pipe Ram			
8-3/4			Double Ram		x	5M
			Other *			
			An	inular		
			Blin	d Ram		
			Pipe Ram			
			Double Ram			
			Other *			

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other

accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

 Y Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i. A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart. Y Are anchors required by manufacturer? Y A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi. o If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the packoff, the pack-off and the lower the pack-off will not have been possible with a standard wellhead, the well head will be cut and top out operations will not be retested at that time. If the cent does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted. Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating. Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2.<th></th><th></th>											
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After running the 9-5/8' intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 5M will already be installed on the wellhead.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a Kelly cock, floor safety valve, choke lines, and choke manifold rated at 5,000 psi WP.

Devon's proposed wellhead manufactures will be EMC Technologies, Cactus Wellhead, or Cameron.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 5,000 psi WP.

5. Mud Program

Depth		Туре	Weight (ppg)	Viscosity	Water Loss
From	То				
0	958	FW Gel	8.5-9.0	28-34	N/C
958	4403	Saturated Brine	10.0-11.0	28-34	N/C
4403	18313	Cut Brine	8.5-9.3	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain	PVT/Pason/Visual Monitoring
of fluid?	

6. Logging and Testing Procedures

Logging, Coring and Testing.

X	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole).
	Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	KOP to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?					
BH Pressure at deepest TVD	4994 psi					
Abnormal Temperature	No					

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

N	H2S is present			
Y	H2S Plan attached		 	

8. Other facets of operation

Is this a walking operation? No. Will be pre-setting casing? No.

Attachments _x_ Directional Plan ____ Other, describe



Fluid Technology

ContiTech Beattle Corp. Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses Lifting & Safety Equipment

To Helmerich & Payne,

A Continental ContiTech hose assembly can perform as intended and suitable for the application regardless of whether the hose is secured or unsecured in its configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Production, we do offer the corresponding lifting and safety equipment, this has the added benefit of easing the lifting and handling of each hose assembly whilst affording hose longevity by ensuring correct handling methods and procedures as well as securing the hose in the unlikely event of a failure; but in no way does the lifting and safety equipment affect the performance of the hoses providing the hoses have been handled and installed correctly. It is good practice to use lifting & safety equipment but not mandatory

Should you have any questions or require any additional information/darifications then please do not hesitate to contact us.

ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

Best regards,

Robin Hodgson Sales Manager ContiTech Beattie Corp

ContiTech Beattle Corp, 11535 Brittmoore Park Drive, Houston, TX 77041 Phone: +1 (832) 327-0141 Fax: +1 (832) 327-0148 www.contitechbeatte.com



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QUALITY DOCUMENT

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PHOENIX RUBBER INDUSTRIAL LTD.

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SALES & MARKETING: H-1092 Budgest, Råday u. 42-44, Hungary • H-1440 Budapest, P. Q. Box 26 Phone: (361) 456-4200 • Fax: (361) 217-2972, 456-4273 • www.taurusemerge.hu

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VERIFIED TRUE CO. PHOENIX RUBBER Q.C.
Devon Energy APD VARIANCE DATA

OPERATOR NAME: Devon Energy

1. SUMMARY OF Variance:

Devon Energy respectfully requests approval for the following additions to the drilling plan:

1. Potential utilization of a spudder rig to pre-set surface casing.

2. Description of Operations

- 1. A spudder rig contractor may move in their rig to drill the surface hole section and pre-set surface casing on this well.
 - **a.** After drilling the surface hole section, the rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
 - **b.** Rig will utilize fresh water based mud to drill surface hole to TD.
- 2. The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
- 3. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
 - a. A means for intervention will be maintained while the drilling rig is not over the well.
- 4. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 5. Drilling operation will be performed with the big rig. At that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
 - **a.** The BLM will be contacted / notified 24 hours before the big rig moves back on to the pad with the pre-set surface casing.
- 6. Devon Energy will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
- 7. Once the rig is removed, Devon Energy will secure the wellhead area by placing a guard rail around the cellar area.

FAFMSS

U.S. Department of the Interior BUREAU OF LAND MANAGEMENT



APD ID: 10400024181	Submission Date: 11/30/2017	Highlighted data
Operator Name: DEVON ENERGY PRODUCTION COMPA	NY LP	reflects the most recent changes
Well Name: BIG SINKS DRAW 25-24 FED COM	Well Number: 331H	Show Final Text
Well Type: OIL WELL	Well Work Type: Drill	

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

BSD_25_24_Fed_Com_331H_Ex_Access_Rd_20171101102214.pdf Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: Improve road to accommodate Drilling and Completion operations.

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES **New Road Map:** BSD_25_24_Fed_Com_331H_Access_Rd_20171101102316.pdf New road type: COLLECTOR, RESOURCE Length: 486 Feet Width (ft.): 30 Max slope (%): 6 Max grade (%): 4 Army Corp of Engineers (ACOE) permit required? NO ACOE Permit Number(s): New road travel width: 30 New road access erosion control: WATER DRAINAGE DITCH New road access plan or profile prepared? NO New road access plan attachment: Access road engineering design? NO Access road engineering design attachment:

Well Name: BIG SINKS DRAW 25-24 FED COM

Well Number: 331H

Access surfacing type: GRAVEL

Access topsoil source: ONSITE

Access surfacing type description:

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: SEE INTERIM RECLAMATION DIAGRAM

Access other construction information:

Access miscellaneous information:

Number of access turnouts:

Access turnout map:

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: N/A

Road Drainage Control Structures (DCS) description: N/A

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

BSD_25_24_Fed_Com_331H_1mile_map_20171101102800.pdf

Existing Wells description:

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: ALL FLOWLINES WILL BE BURIED GOING TO THE BIG SINKS DRAW 25 CTB 1.

Section 5 - Location and Types of Water Supply

Water Source Table

 Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

 Well Name: BIG SINKS DRAW 25-24 FED COM
 Well Number: 331H

Water source use type: STIMULATIONWater source type: RECYCLEDDescribe type:Source latitude:Source latitude:Source longitude:Source datum:Yater source permit type: OTHERWater source permit type: OTHERYater source transport method: PIPELINE,TRUCKINGSource transport method: PIPELINE,TRUCKINGSource transport ation land ownership: FEDERALWater source volume (barrels): 202500Source volume (acre-feet): 26.100851Source volume (gal): 8505000Source volume (acre-feet): 26.100851

Water source and transportation map:

BSD_25_24_Fed_Com_331H_Wtr_Xfr_Map_20171101103017.pdf

Water source comments: The attached Water Transfer Map is a proposal only and the final route and documentation will be provided by a Devon contractor prior to installation. When available Devon will always follow existing disturbance. **New water well?** NO

New Water Well Ir	nfo	
Well latitude:	Well Longitude:	Well datum:
Well target aquifer:		
Est. depth to top of aquifer(ft):	Est thickness of a	aquifer:
Aquifer comments:		
Aquifer documentation:		
Well depth (ft):	Well casing type:	
Well casing outside diameter (in.):	Well casing inside of	diameter (in.):
New water well casing?	Used casing source	9:
Drilling method:	Drill material:	
Grout material:	Grout depth:	
Casing length (ft.):	Casing top depth (f	`t.):
Well Production type:	Completion Method	1:
Water well additional information:		
State appropriation permit:		
Additional information attachment:		

Well Name: BIG SINKS DRAW 25-24 FED COM

Well Number: 331H

Section 6 - Construction Materials

Construction Materials description: Dirt fill and caliche will be used to construct well pad.

Construction Materials source location attachment:

BSD_25_24_Fed_Com_331H_Caliche_Pit_20171101103743.pdf

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Water Based Cuttings

Amount of waste: 1810 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL

FACILITY Disposal type description:

Disposal location description: All cuttings will disposed of at R360, Sundance, or equivalent.

Waste type: COMPLETIONS/STIMULATION

Waste content description: FLOW BACK WATER DURING COMPLETION OPERATIONS

Amount of waste: 3000 barrels

Waste disposal frequency : One Time Only

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL

FACILITY Disposal type description:

Disposal location description: VARIOUS DISPOSAL LOCATIONS IN LEA AND EDDY COUNTIES.

Waste type: FLOWBACK

Waste content description: Produced water during flowback operations. This amount is a daily average during flowback (BWPD). Any sand production is taken to R360 for solids disposal **Amount of waste:** 2500 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: ON-LEASE INJECTION Disposal location ownership: PRIVATE

Well Name: BIG SINKS DRAW 25-24 FED COM

Well Number: 331H

Disposal type description:

Disposal location description: Devon owned disposal Cotton Draw 32-2 SWD

Waste type: PRODUCED WATER

Waste content description: Average daily water production over the first year of production (BWPD).

Amount of waste: 1800 barrels

Waste disposal frequency : Daily

Safe containment description: N.A

Safe containmant attachment:

Waste disposal type: ON-LEASE INJECTION Disposal location ownership: PRIVATE

Disposal type description:

Disposal location description: Devon owned disposal Cotton Draw 32-2 SWD

	'n
Reserve Pit	1
	. 1

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) Reserve pit width (ft.)

Reserve pit depth (ft.)

Reserve pit volume (cu. yd.)

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area	
Cuttings Area being used? NO	
Are you storing cuttings on location? NO	
Description of cuttings location	
Cuttings area length (ft.)	Cuttings area width (ft.)
Cuttings area depth (ft.)	Cuttings area volume (cu. yd.)
Is at least 50% of the cuttings area in cut?	

WCuttings area liner

Cuttings area liner specifications and installation description

Well Name: BIG SINKS DRAW 25-24 FED COM

Well Number: 331H

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

BSD_25_24_Fed_Com_331H_Rig_Layout_20171101101315.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: BIG SINKS DRAW CTB

Multiple Well Pad Number: 1

Recontouring attachment:

BSD_25_24_Fed_Com_331H_Reclamation_20171101104317.pdf

Drainage/Erosion control construction: All areas disturbed shall be reclaimed as early and as nearly as practicable to their original condition or their final land use and shall be maintained to control dust and minimize erosion to the extent practicable. **Drainage/Erosion control reclamation:** Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns. The disturbed area then shall be reseeded in the first favorable growing season.

Well pad proposed disturbance (acres): 5.109	Well pad interim reclamation (acres): 1.912	Well pad long term disturbance (acres): 3.197
Road proposed disturbance (acres): 0.335	Road interim reclamation (acres): 0	Road long term disturbance (acres): 0.335
Powerline proposed disturbance (acres): 0.277	0 Pipeline interim reclamation (acres):	Powerline long term disturbance (acres): 0 Pipoling long term disturbance
(acres): 0.291 Other proposed disturbance (acres): 0	0.10330579 Other interim reclamation (acres): 0	(acres): 0.291 Other long term disturbance (acres): 0
Total proposed disturbance: 6.012	Total interim reclamation: 2.0153058	Total long term disturbance: 3.823

Disturbance Comments:

Reconstruction method: Operator will use Best Management Practices"BMP" to mechanically recontour to obtain the desired outcome.

Topsoil redistribution: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.

Soil treatment: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.

Existing Vegetation at the well pad:

Existing Vegetation at the well pad attachment:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP Well Name: BIG SINKS DRAW 25-24 FED COM Well Nu

Well Number: 331H

Existing Vegetation Community at the road: Existing Vegetation Community at the road attachment: Existing Vegetation Community at the pipeline: Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO Non native seed description: Seedling transplant description: Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO Seed harvest description: Seed harvest description attachment:

Seed Management

Seed Table		
Seed type:		Seed source:
Seed name:		
Source name:		Source address:
Source phone:		
Seed cultivar:		
Seed use location:		
PLS pounds per acre:		Proposed seeding season:
Seed S	ummary	Total pounds/Acre:
Seed Type	Pounds/Acre	

Seed reclamation attachment:

 Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

 Well Name: BIG SINKS DRAW 25-24 FED COM
 Well Number: 331H

Operator Contact/Responsible Official Contact Info First Name: JACOB Last Name: OCHOA Phone: (575)748-9934 Email: jacob.ochoa@dvn.com Seedbed prep: Seed BMP: Seed method: Existing invasive species? NO Existing invasive species treatment description: Existing invasive species treatment attachment: Weed treatment plan description: Maintain weeds on an as need basis. Weed treatment plan attachment: Monitoring plan description: Monitor as needed. Monitoring plan attachment: Success standards: N/A Pit closure description: N/A Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: NEW ACCESS ROAD Describe: Surface Owner: BUREAU OF LAND MANAGEMENT Other surface owner description: BIA Local Office: BOR Local Office: COE Local Office: DOD Local Office: NPS Local Office: State Local Office: USFWS Local Office: USFWS Local Office: USFS Region: USFS Forest/Grassland:

USFS Ranger District:

1

Operator Name: DEVON ENERGY PRODUCTION COMPANY LPWell Name: BIG SINKS DRAW 25-24 FED COMWell I

Well Number: 331H

.

Disturbance type: EXISTING ACCESS ROAD	
Describe:	
Surface Owner: BUREAU OF LAND MANAGEMENT	
Other surface owner description:	
BIA Local Office:	
BOR Local Office:	
COE Local Office:	
DOD Local Office:	
NPS Local Office:	
State Local Office:	
Military Local Office:	
USFWS Local Office:	
Other Local Office:	
USFS Region:	
USFS Forest/Grassland:	USFS Ranger District:

Disturbance type: WELL PAD	
Describe:	
Surface Owner: BUREAU OF LAND MANAGEMENT	
Other surface owner description:	
BIA Local Office:	
BOR Local Office:	
COE Local Office:	
DOD Local Office:	
NPS Local Office:	
State Local Office:	
Military Local Office:	
USFWS Local Office:	
Other Local Office:	
USFS Region:	
USFS Forest/Grassland:	USFS Ranger District:

.

Operator Name: DEVON ENERGY PRODUCTION COMP	PANY LP
Well Name: BIG SINKS DRAW 25-24 FED COM	Well Nu

Well Number:	331H
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Disturbance type: PIPELINE	
Describe:	
Surface Owner: BUREAU OF LAND MANAGEMENT	
Other surface owner description:	
BIA Local Office:	
BOR Local Office:	
COE Local Office:	
DOD Local Office:	
NPS Local Office:	
State Local Office:	
Military Local Office:	
USFWS Local Office:	
Other Local Office:	
USFS Region:	
USFS Forest/Grassland:	USFS Ranger District:

Section 12 - Other Information

Right of Way needed? NO ROW Type(s):

Use APD as ROW?

ROW Applications

SUPO Additional Information: Electric Survey Flowline Survey Gas Capture Plan Grading & X-Section Misc Plats Use a previously conducted onsite? NO

Previous Onsite information:

Other SUPO Attachment

BSD_25_24_Fed_Com_331H_Electric_20171107110528.pdf BSD_25_24_Fed_Com_331H_Flowline_20171107110545.pdf BSD_25_24_Fed_Com_331H_Gas_Capture_Plan_20171107110559.pdf BSD_25_24_Fed_Com_331H_Grading_Plan_X_Sec_20171107110612.pdf BSD_25_24_Fed_Com_331H_Misc_Plats_20171107110631.pdf

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ACCESS ROAD PLAT ACCESS ROAD TO THE BIG SINKS DRAW 25-24 FED COM 331H

DEVON ENERGY PRODUCTION COMPANY, L.P. CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING SECTION 25, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO OCTOBER 11, 2017

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 25, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE SW/4 NW/4 OF SAID SECTION 25, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE WEST QUARTER CORNER OF SAID SECTION 25, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS S85'35'39"W, A DISTANCE OF 290.14 FEET;

THENCE N89'32'49"E A DISTANCE OF 486.72 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE WEST QUARTER CORNER OF SAID SECTION 25, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS S88'04'15"W, A DISTANCE OF 776.43 FEET;

SAID STRIP OF LAND BEING 486.72 FEET OR 29.50 RODS IN LENGTH, CONTAINING 0.335 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SW/4 NW/4 486.72 L.F. 29.50 RODS 0.335 ACRES

SURVEYOR CERTIFICATE

CENERAL NOTES 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

sheet: 2–2 h MADRON SURVEYIN I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHERE OF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

ISP	NEW MEXICO, THIS A DAY OF OCTOBER 2017	
3	MADRON SURVEYING, INC. 301 SOUTH CANAL	ł
	CARLSBAD, NEW MEXICO 88220 Phone (575) 234-3341	
	FULLOW F. / HEATING FIS. VERET CONSURVEY NO. 5659	
<i>'G</i> ,	(INC. (575) 234-334) CARLSBAD, NEW MEXICO	ļ
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- Fed pit 25- 23S- 31E



- Private pit 26- 23S- 31E









SECTION 25, T25S-R31E, N.M.P.M., EDDY COUNTY, NEW MEXICO

ELECTRIC LINE PLAT

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the southwest quarter (SW ¹/₄) and the northwest quarter (NW ¹/₄) of Section 25, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 2" iron pipe w/BC for the southwest corner of Section 25, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence N 14°12'26" E a distance of 2646.94' to the **Point of Beginning** of this easement having coordinates of Northing=401008.18 feet, Easting=725661.29 feet and continuing the following courses;

Thence N 08°57'36" E a distance of 340.24' to an angle point;

Thence N 89°22'34" E a distance of 61.98' to the **Point of Ending** having coordinates of Northing=401344.94 feet, Easting=725776.26 feet, from said point a 2" iron pipe w/BC for the northwest corner of Section 25, T25S-R31E bears N 18°13'08" W a distance of 2504.21', covering 402.22' or 24.38 rods and having an area of 0.277 acres.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.

B.L. Laman PLS 22404 Date Signed: 07/05/2017 Horizon Row, LLC 924 Richardson Dr., Jasper, TX (903) 388-3045 75951 Employee of Horizon Row, LLC









FLOWLINE PLAT FIVE-4" POLY FLEX FLOWLINES AND ONE-6" GAS LIFT LINE BURIED IN THE SAME DITCH FROM BIG SINKS DRAW 25-24 FED COM 331H, 521H, 531H, 611H, & 711H TO COTTON DRAW MDP2 BIG SINKS 25 CTB 1 DEVON ENERGY PRODUCTION COMPANY, L.P. CENTERLINE SURVEY OF A PIPELINE CROSSING SECTION 25, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO OCTOBER 26. 2017 DESCRIPTION A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 25, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY: BEGINNING AT A POINT WITHIN THE SW/4 NW/4 OF SAID SECTION 25, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE WEST QUARTER CORNER OF SAID SECTION 25, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS S61'41'12"W. A DISTANCE OF 1081.54 FEET; THENCE NO0'00'31"E A DISTANCE OF 100.05 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED; THENCE S89'59'08"E A DISTANCE OF 286.78 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED; THENCE NO0'12'44"E A DISTANCE OF 35.92 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 25, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N32'04'29"W, A DISTANCE OF 2350.32 FEET; SAID STRIP OF LAND BEING 422.75 FEET OR 25.62 RODS IN LENGTH, CONTAINING 0.291 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS: SW/4 NW/4 422.75 L.F. 25.62 RODS 0.291 ACRES SURVEYOR CERTIFICATE I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEDICO. **GENERAL NOTES** 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT. IN WITNESS WHEREOF, THIS "CERRIFICATE IS EXECUTED AT CARLSBAD, 2.) BASIS OF BEARING AND DISTANCE IS NMSP DAY OF OCTOBER 201 NEW MEXICO! THIS! EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 O MADRON SURVEYING, INC. 301 SOUTH CANAL (FEET) COORDINATE SYSTEMS USED IN THE CARLSBAD, NEW MEXICO 88220 SURVEY. Phone (575) 234-3341

JARANTILO. 18. 12797

CARLSBAD,

SURVEY NO. 5690

NEW MEXICO

FILMON/T

NC. 301, SDUTH CANAL (5/5) 234-3341

SHEET: 2-4

MADRON SURVEYING,


















U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO **Produced Water Disposal (PWD) Location:** PWD surface owner: Lined pit PWD on or off channel: Lined pit PWD discharge volume (bbl/day): Lined pit specifications: Pit liner description: Pit liner manufacturers information: Precipitated solids disposal: Decribe precipitated solids disposal: Precipitated solids disposal permit: Lined pit precipitated solids disposal schedule: Lined pit precipitated solids disposal schedule attachment: Lined pit reclamation description: Lined pit reclamation attachment: Leak detection system description: Leak detection system attachment: Lined pit Monitor description: Lined pit Monitor attachment: Lined pit: do you have a reclamation bond for the pit? Is the reclamation bond a rider under the BLM bond? Lined pit bond number: Lined pit bond amount: Additional bond information attachment:

PWD disturbance (acres):

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

PWD disturbance (acres):

PWD disturbance (acres):

Injection well type:

Injection well number:

Assigned injection well API number?

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location: PWD surface owner:

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

Injection well name:

Injection well API number:

PWD disturbance (acres):

PWD disturbance (acres):

FMSS

U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

Bond Information

Federal/Indian APD: FED

BLM Bond number: CO1104

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Bond Info Data Report

07/09/2018

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: