District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011

Permit 351097

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address	2. OGRID Number
Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	328947
	3. API Number 30-025-52031

4. Property Code	5. Property Name	6. Well No.
334753	VALHALLA 9 8 STATE	060H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
D	10	17S	33E	D	825	N	525	W	Lea

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
B	8	17S	33E	B	875	N	2594	E	Lea

9. Pool Information

WC-025 G-03 S173318N;YESO	97727

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
New Well	OIL		State	4169
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	14556	Blinebry		1/1/2024
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ **We will be using a closed-loop system in lieu of lined pits**

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	1525	1487	0
Int1	12.25	9.625	36	3275	827	0
Prod	8.75	7	32	6900	2816	0
Prod	8.75	5.5	20	14556	2816	0

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	5	3000	SHAFFER

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.** Signature:		**OIL CONSERVATION DIVISION**	
Printed Name:	Electronically filed by Sarah Chapman	Approved By:	Paul F Kautz
Title:	Regulatory Director	Title:	Geologist
Email Address:	schapman@spurenergy.com	Approved Date:	9/29/2023 Expiration Date: 9/29/2025
Date:	9/28/2023 Phone: 832-930-8613	Conditions of Approval Attached	

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Phone: (505) 476-3460 Fax: (505) 476-3462

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

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-015-	44500	MALJAMAR; YESO, WEST

4 Property Code	5 Property Name	6 Well Number
	VALHALLA 9-8 STATE	60H

7 OGRID NO.	8 Operator Name	9 Elevation
328947	SPUR ENERGY PARTNERS LLC.	4169'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
D	10	17S	33E		825	NORTH	525	WEST	LEA

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	8	17S	33E		875	NORTH	2594	EAST	LEA

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
480			

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

16

GEODETIC DATA
NAD 83 GRID – NM EAST

SURFACE LOCATION (SL)
N: 675143.2 – E: 748759.9
LAT: 32.8541688° N
LONG: 103.6578725° W

FIRST TAKE POINT (FTP)
875' FNL & 100' FEL – SEC 9
N: 675087.4 – E: 748135.4
LAT: 32.8540264° N
LONG: 103.6599072° W

LAST TAKE POINT (LTP)
875' FNL & 2544' FEL – SEC 8
N: 675016.7 – E: 740416.2
LAT: 32.8539648° N
LONG: 103.6850445° W

BOTTOM HOLE (BH)
875' FNL & 2594' FEL – SEC 8
N: 675016.3 – E: 740366.2
LAT: 32.8539645° N
LONG: 103.6852073° W

CORNER DATA
NAD 83 GRID – NM EAST

A: FOUND BRASS CAP "1913"
N: 670589.2 – E: 737713.4

B: FOUND BRASS CAP "1913"
N: 673229.2 – E: 737691.4

C: FOUND BRASS CAP "1913"
N: 675868.5 – E: 737669.1

D: FOUND BRASS CAP "1913"
N: 675890.6 – E: 740308.9

E: FOUND BRASS CAP "1913"
N: 675913.0 – E: 742947.1

F: FOUND BRASS CAP "1913"
N: 675938.3 – E: 745588.2

G: FOUND BRASS CAP "1913"
N: 675963.1 – E: 748229.1

H: FOUND BRASS CAP "1913"
N: 676012.3 – E: 753497.4

I: FOUND BRASS CAP "1913"
N: 673372.7 – E: 753518.2

J: FOUND BRASS CAP "1913"
N: 670732.3 – E: 753537.8

K: FOUND BRASS CAP "1913"
N: 670708.7 – E:750901.5

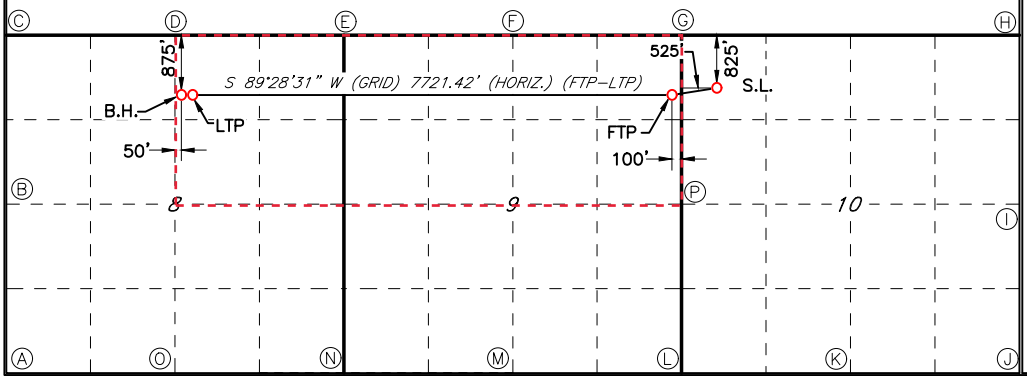
L: FOUND BRASS CAP "1913"
N: 670684.5 – E: 748266.9

M: FOUND BRASS CAP "1913"
N: 670660.4 – E: 745629.1

N: FOUND BRASS CAP "1913"
N: 670636.8 – E: 743021.5

O: FOUND BRASS CAP "1913"
N: 670613.6 – E: 740352.8

P: FOUND BRASS CAP "1913"
N: 673324.2 – E: 748248.0



17 OPERATOR CERTIFICATION

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

Cynthia Villacorta 9/18/2023
Signature Date

Cynthia Villacorta
Printed Name

cynthia.villacorta@spurenergy.com
E-mail Address

18 SURVEYOR CERTIFICATION

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

07/27/2022
Date of Survey

Signature and Seal of Professional Surveyor:

ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

Job No: LS22070882

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Conditions

Permit 351097

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address:	API Number:
Spur Energy Partners LLC [328947] 9655 Katy Freeway Houston, TX 77024	30-025-52031
	Well: VALHALLA 9 8 STATE #060H

OCD Reviewer	Condition
pkautz	Notify OCD 24 hours prior to casing & cement
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing
pkautz	If cement does not circulate on any string , a CBL is required for that string of casing.
pkautz	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud

Permian Drilling

Hydrogen Sulfide Drilling Operations Plan

Vahlhalla 9-8 State Development

Open drill site. No homes or buildings are near the proposed location.

1. Escape

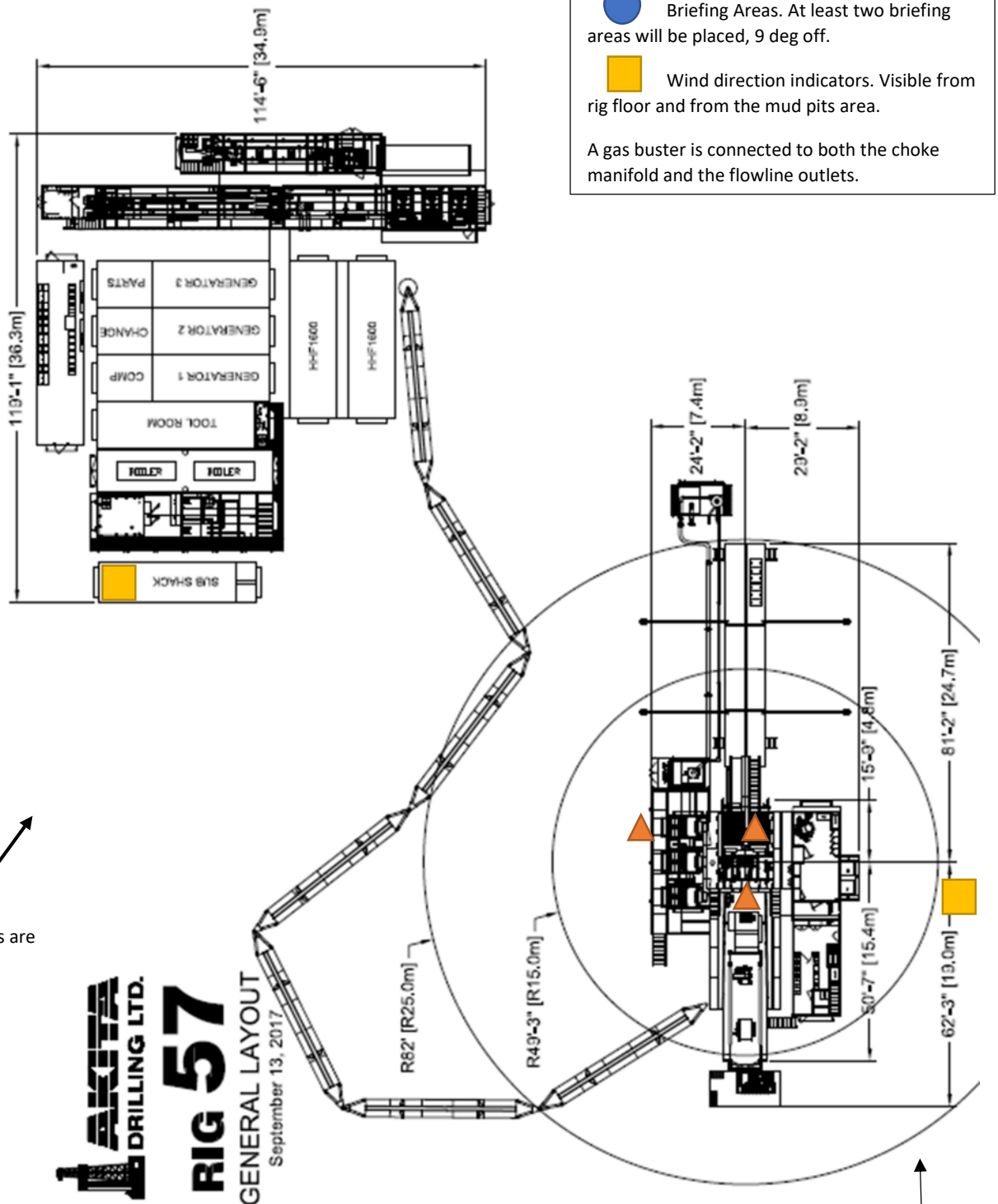
   Personnel shall escape upwind of wellbore in the even of an emergency gas release. Escape can take place through the lease road on the Southeast side of the location. Personnel need to move to a safe distance and block the entrance to location. If the primary route is not an option due to the wind direction, then secondary egress route should be taken.

H2S Detectors. At least three detectors will be installed: bell nipple, rig floor, and Shakers.

Briefing Areas. At least two briefing areas will be placed, 9 deg off.

Wind direction indicators. Visible from rig floor and from the mud pits area.

A gas buster is connected to both the choke manifold and the flowline outlets.



ATCO DRILLING LTD. RIG 57

GENERAL LAYOUT

September 13, 2017

Wind: Prevailing winds are from the Southwest.

N

Primary Briefing Area

Secondary Egress

Secondary Briefing Area

Exit to road. Caution sign placed here.

Spur Energy Partners
New Mexico Operations
Hydrogen Sulfide Operation Plan

A. Introduction:

The Safety of all personnel at Spur Energy Partners Facilities is of utmost importance to the company, and therefor management and employees must take responsibility for their safety and for the safety of all employees and others at a facility. If you have any concerns about the safe operations of the facility, contract personnel, or vendors, please contact the Company's Safety Contact, Superintendent, or Production Foreman immediately.

The objective of this contingency plan is to provide an organized plan of action for alerting, responding to and protecting employees, other workers and the public from H2S exposure in the event of a release of a potentially hazardous volume of H2S to the atmosphere. This plan should be activated immediately if any such release occurs. The Superintendent is responsible for initiating and carrying out the plan.

B. Scope:

Prevent the uncontrolled release of H_2S into the atmosphere. Provide proper procedures and equipment to alert and respond to emergencies.

Provide immediate and adequate medical attention should an injury occur.

To provide Company employees working at actual or potential Hydrogen Sulfide (H2S) facilities with a safe procedure to comply with applicable Federal, State and Company requirements.

This document is intended to provide general policy, procedures and expectations surrounding elevated levels of H2S. The intent is to promote sound and safe operations, while seeking effective communication surrounding operational considerations working around H2S.

This procedure applies to all Company employees and contractors working at facilities that have the potential to release 100 ppm or higher concentrations of H2S.

The plan establishes guidelines for all personnel whose work activity may involve exposure to Hydrogen Sulfide Gas (H_2S).

C. Hydrogen Sulfide Gas (H2S) Characteristics:

1. H2S is a toxic, poisonous gas that could cause death or injury. And it is also flammable.
2. H2S is an irritant and extremely toxic gas that is several times deadlier than carbon monoxide (CO).
3. H2S is heavier than air with a specific gravity of 1.1895 @ 600 F. so it will tend to lie in lower areas. Wind movement or air currents can readily disperse H2S since wind currents can easily overcome the heavier weight. On calm days, with no wind, the H2S will tend to accumulate in dangerous concentrations; however, if the H2S is warmer than the surrounding air it may rise.
4. H2S is colorless.
5. In small concentrations, H2S has the characteristic odor of rotten eggs. It may be detected by smell at a concentration in air of about 2 ppm but may NOT be detected

at high concentrations. DO NOT DEPEND ON THE SENSE OF SMELL TO DETECT H2S! H2S will paralyze the olfactory nerve causing a loss of the sense of smell within 2 – 15 minutes of an exposure in concentrations as low as 100-150 ppm.

6. H2S burns with a blue flame and has an auto ignition temperature of 5000 F. H2S forms an explosive mixture in the range of 4.3% to 45% by volume with air. H2S, when ignited, produces Sulfur Dioxide (SO2). SO2 is another toxic gas but less toxic than H2S.
7. Physiological Effects
    - 1,000-2,000+ ppm: Loss of consciousness and possible death.
    - 100-1,000 ppm: Serious respiratory, central nervous, and cardiovascular system effects.
    - 150-200 ppm: Olfactory fatigue (sense of smell is significantly impaired).
    - 100 ppm: Immediately Dangerous to Life and Health (IDLH concentration).
    - 5-30 ppm: Moderate irritation of the eyes.
    - 5-10 ppm: Relatively minor metabolic changes in exercising individuals during short-term exposures.
    - Less than 5 ppm: Metabolic changes observed in exercising individuals, but not clinically significant.
    - 5 ppm: Increase in anxiety symptoms (single exposure).
    - 5 ppm: Start of the dose-response curve (short-term exposure).
    - 0.032-0.02 ppm: Olfactory threshold (begin to smell).

D. H_2S 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 work at an effected facility:

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 H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.
5. The procedures for operating process equipment.

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

1. Corrective action and shutdown procedures when a release or leak occurs.
2. Notification process

Annual drills will be conducted to utilize the procedures and make improvements as needed. It will also serve as refresher training on the process.

Note: All H_2S safety equipment and systems will be installed, tested, and operational when operation commences.

E. Protective equipment controls:

Any facility that has the potential to emit H2S at 100 ppm or higher will be required to install and utilize the below controls:

1. Where applicable, area air monitors will be installed and function tested and calibrated no less than monthly and set on a quarterly basis PM schedule.
2. Facility operators will use self contained breathing apparatuses (SCBA's) to perform routine operations in areas where H2S may be present.
3. Trigger of 100 PPM or more must be communicated and work proceeding the trigger must use the buddy system.
4. Visible windsocks must be installed at key locations surrounding the facility.
5. H2S warning signs must be placed at the entrance to the facility as well as other key locations.
6. Personal H2S Monitor are required to be worn by all personnel on locations.
7. Stairs and ladders leading to the top of a tank or vessel containing 300 ppm or greater shall be chained or marked to restrict entry.

F. Emergency Procedures

1. Spill or Release of H_2S gas

If a spill or leak releases H_2S the following action must be initiated and completed:

a. Internally – Employee contacts supervisor and HSE Department and performs “d” below.

b. Externally - Someone identifies a possible H_2S emergency and reports it to Company Management, via the listed phone number on posted facility signs.

c. The Company dispatches an employee to investigate possible H_2S emergency and will secure situation or initiate emergency call for backup.

d. If the Radius of Exposure has been breached begin the following:

- Establish safe command center.
- Call for additional personnel and delegate the following:
  - i. Notifying public safety agencies (Sheriff, Fire Department, Department of Public Safety, Hwy. Department).
  - ii. Safeguarding the facility and effected area.
  - iii. Blocking roads as needed.
  - iv. Notifying/evacuating public.
  - v. Notifying regulatory agencies.
  - vi. Gathering additional information about release ie., location, flowrate, quantity, etc.
  - vii. Stopping release if safe to do so (use 2 trained persons)
  - viii. Notifying company management.
  - ix. Cleanup/repair facilities.

e. Facility Standard Operating Procedure

- Evacuate the area, travel crosswind then proceed upwind.
- Gather at muster point. Ensure Primary Muster point is upwind
- Notify managers & appropriate EMS if required.
- Safely shut down (ESD) facility if the facility hasn't already shut in.
- Pick up SCBA (should be a 30 minute - 1 hour pack, located at Muster point.)
- Use buddy system for man down scenario with rescuers assigned.
  - 1 person to mask up to operate facility controls as needed.
  - 1 person for rescue if needed.
  - 1 person for calling EMS and company management
- Investigate area and isolate release of gas if safe to do and ensure closure using 4 gas monitor.
- If venting gas can't be isolated, return to muster point, and re-evaluate path forward.
- Give detailed description where/how gas is being released.
- After isolation verify that area monitors return to 0 and are not in alarm.
- Resume normal operations, once managers agree the ROOT CAUSE has been addressed and corrected.

G. Contacting Authorities

Company personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the NM Emergency Response Commission 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. Spur Energy Partners response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER).

H. Call List

Spur Energy Partners Emergency Contact List			
Person	**Location**	**Office Phone**	**Cell Phone**
Drilling and Completions Department			
Drilling Manager - Chris Hollis	Houston	832-930-8629	713-380-7754
Completions Manager - Theresa Voss	Houston	832-930-8614	832-849-8635
VP of Operations - Seth Ireland	Houston	832-930-8527	940-704-6375
Senior VP of Operations - John Nabors	Houston	832-930-8526	281-904-8811
Executive VP of Operations - Todd Mucha	Houston	832-930-8515	281-795-2286
HES/Environmental and Regulatory Department			
EHS Manager - Braidy Moulder	Artesia	575-616-5400	713-264-2517
Superintendent - Jerry Mathews	Artesia	575-616-5400	575-748-5234
Asst. Superintendent - Kenny Kidd	Artesia	575-616-5400	575-703-5851
Regulatory Director - Sarah Chapman	Houston	832-930-8613	281-642-5503
Regulatory Agencies			
Bureau of Land Management	Carlsbad	575-886-6544	
Bureau of Land Management	Hobbs	575-393-3612	
Bureau of Land Management	Roswell	575-622-5335	
Bureau of Land Management	Santa Fe	505-954-2000	
DOT Judicial Pipelines - Incident Reporting NM Public Regulation Commission	Santa Fe	505-827-3549 505-490-2375	
EPA Hotline	Dallas	214-665-6444	
Federal OSHA, Area Office	Lubbock	806-472-7681	
National Response Center	Washington, D.C.	800-424-8803	
National Infrastructure Coordinator Center	Washington, D.C.	202-282-2901	
New Mexico Air Quality Bureau	Santa Fe	505-827-1494	
New Mexico Oil Conservation Division	Artesia	575-748-1283 575-370-7545After	
New Mexico Oil Conservation Division	Hobbs	575-393-6161	
New Mexico Oil Conservation Division	Santa Fe	505-476-3770	
New Mexico OCD Environmental Bureau	Santa Fe	505-827-7152 505-476-3470	
New Mexico Environmental Department	Hobbs	575-827-9329	
NM State Emergency Response Center	Santa Fe	505-476-9600	

Medical Facilities		
Artesia General Hospital	Artesia	575-748-3333
Covenant Medical Center	Lubbock	806-725-1011
Covenant Medical Center Lakeside	Lubbock	806-725-6000
Guadalupe County Hospital	Carlsbad	575-887-6633
Lea Regional Hospital	Hobbs	575-492-5000
Medical Center Hospital	Odessa	432-640-4000
Midland Memorial Hospital	Midland	432-685-1111
Nor-Lea General Hospital	Lovington	575-396-6611
Odessa Regional Hospital	Odessa	432-334-8200
Union County General Hospital	Clayton	575-374-2585
University Medical Center	Lubbock	806-725-8200
Law Enforcement - Sheriff		
Ector County Sheriff's Department	Odessa	432-335-3050
Ector County Sheriff's Department	Artesia	575-746-2704
Ector County Sheriff's Department	Carlsbad	575-887-7551
Lea County Sherrif's Department	Eunice	575-384-2020
Lea County Sherrif's Department	Hobbs	575-393-2515
Lea County Sherrif's Department	Lovington	575-396-3611
Lubbock County Sheriff's Department	Abernathy	806-296-2724
Midland County Sheriff's Department	Midland	432-688-1277
Union County Sheriff's Department	Clayton	575-374-2583
Law Enforcement - Police		
Abernathy Police Department	Abernathy	806-298-2545
Artesia City Police	Artesia	575-746-2704
Carlsbad City Police	Carlsbad	575-885-2111
Clayton City Police	Clayton	575-374-2504
Eunice City Police	Eunice	575-394-2112
Hobbs City Police	Hobbs	575-397-9265 575-393-2677
Jal City Police	Jal	575-395-2501
Lovington City Police	Lovington	575-396-2811

Midland City Police	Midland	432-685-7113
Odessa City Police	Odessa	432-335-3378
Law Enforcement - FBI		
FBI	Albuquerque	505-224-2000
FBI	Midland	432-570-0255
Law Enforcement - DPS (911)		
NM State Police	Artesia	575-746-2704
NM State Police	Carlsbad	575-885-3137
NM State Police	Eunice	575-392-5588
NM State Police	Hobbs	575-392-5588
NM State Police	Clayton	575-374-2473
Firefighting and Rescue (911)		
Abernathy	Abernathy	806-298-2022
Amistad/Rosebud	Amistad/Rosebud	575-633-9113
Artesia	Artesia	575-746-5751
Carlsbad	Carlsbad	575-885-3125
Clayton	Clayton	575-374-2435
Eunice	Eunice	575-394-2111
Hobbs	Hobbs	575-397-9308
Jal	Jal	575-395-2221
Lovington	Lovington	575-396-2359
Maljamar	Maljamar	575-676-4100
Midland	Midland	432-685-7346
Nara Visa	Nara Visa	575-461-3300
Odessa	Odessa	432-335-4659
Tucumcari	Tucumcari	911
West Odessa	Odessa	432-381-3033

Ambulance (911)		
Abernathy Ambulance	Abernathy	806-298-2241
Amistad/Rosebud	Amistad/Rosebud	575-633-9113
Artesia Ambulance	Artesia	575-746-2701
Carlsbad Ambulance	Carlsbad	575-885-2111
Clayton Ambulance	Clayton	575-374-2501
Eunice Ambulance	Eunice	575-394-3258
Hobbs Ambulance	Hobbs	575-397-9308
Jal Ambulance	Jal	575-395-3501
Lovington Ambulance	Lovington	575-396-2811
Midland Ambulance	Midland	432-685-7499
Nara Visa Ambulance	Nara Visa	575-461-3300
Odessa Ambulance	Odessa	432-335-3378
Tucumcari Ambulance	Tucumcari	911
Medical Air Ambulance Service		
AEROCARE - Methodist Hospital	Lubbock	800-627-2376
Southwest MediVac	Hobbs	800-242-6199
Odessa Care Star	Odessa	888-624-3571

I. List of Facilities with the potential for 500ppm or higher H2S exposure.

ATTACHMENT 1: SPUR FACILITIES WITH ROE REVIEW

ALASKA 29 FEE TANK BATTERY
ARABIAN 6 FEE TANK BATTERY
ARCO 26 A STATE OIL BATTERY
ARCO B FEDERAL COM NO. 001
ARKANSAS STATE 23 TANK BATTERY
AVALON FEDERAL #001
B&B/ROSS RANCH OIL TANK BATTERY
BC FEDERAL 10 (9-13) TNK BTY
BC FEDERAL 1-8 &14 TNK BTY
BC FEDERAL 42 TNK BTY
BEE FED OIL BATTERY
BEECH 25 FEDERAL #9H BATTERY
BEECH FEDERAL 1
BEECH FEDERAL 2 BATTERY
BERRY A FEDERAL #005 SWB
BERRY A FEDERAL PADD BATTERY
BIG BOY STATE TB
BLUETAIL 8 FEDERAL 2 TANK BATTERY
BONE YARD 11 FEE TANK BATTERY
BOOT HILL 25 1H SWB
BOSE IKARD 4 ST COM 18H BATTERY
BRANTLEY FEDERAL #001
BR-549 STATE BATTERY
BRADLEY 8 FEE #3H-BATTERY
BRADLEY 8 FEE BATTERY
BRAGG 10 FEE 1 BATTERY
BRIGHAM H 2
BRIGHAM H FED (NORTH) BATTERY
BURCH KEELY 13C TK BTY
BURCH KEELY 18A TK BATT
BURCH KEELY 19A OIL BATT
BURCH KEELY 23A TK BATT
BURCH KEELY EAST 18B TANK BAT
BURCH KEELY SEC 13A NORTH BTTY
BURCH KEELY SEC 13B SOUTH BTTY
BURCH KEELY UNIT CTB BTTY
BURCH KEELY UNIT E BATTERY
BURKETT 16 STATE
CADDO FEDERAL BATTERY
CADILLAC ST 4 BATTERY
CALIFORNIA 29 FEE 1
CARMEN 3 FEDERAL BATTERY
CARRINGTON 12 ST 3,4,7 BATTERY
CHASER 8 STATE 2 TANK BATTERY
CHEYENNE FEDERAL TNK BTY
CLYDESDALE 1 FEE #1H BAT
CLYDESDALE 1 FEE 6H - BATTERY
COAL TRAIN FEDERAL COM #1
COFFIN STATE #1
COLLIER 22 STATE COM #43H
COLLIER STATE OIL BATTERY
CONOCO 8 STATE 4 TB
CONTINENTAL A STATE TNK BTY
CONTINENTAL B YESO TANK BTY
CONTINENTAL STATE 15A TNK BTY
CRYPT 30 STATE #1H
DAGGER DRAW FED/FOSTER FED TANK BATTERY
DARNER 9 STATE 1 TANK BATTERY
DARNER 9 STATE 2
DARTER 9 STATE 8 TANK BATTERY
DARNER 9 STATE CTB
DEXTER FEDERAL PAD TNK BTY
DODD 10A OIL BATTERY
DODD 10B TK BTTY
DODD FED #14C TK BATT
DODD FED 11A BATTERY
DODD FED UNIT 980H BATTERY
DODD FEDERAL 14A-TB
DODD FEDERAL UNIT 15A BTTY
DODD FEDERAL UNIT NORTH BTTY
DODD FEDERAL UNIT SOUTH BTTY
DOGWOOD FEDERAL TNK BTY
DORAMI 33 FEDERAL COM 2H.4H.9H TANK BATTERY
EBONY STATE TB
EDWARD STATE TNK BTY
ELECTRA FEDERAL 33 (NORTH) BATTERY
ELECTRA FEDERAL 5 (SWEET) TNK BTY
ELECTRA FEDERAL SOUR TNK BTY
EMPIRE SOUTH DEEP UNIT 21
FALABELLA 31 FEE #1H TK BATT
FALABELLA 31 FEE 8H TK BTY
FAT TIRE 12 COM FEDERAL CTB
FEDERAL BA COM NO. 001
FEDERAL BB NO. 001
FLAT HEAD FED COM 6H TANK BATTERY
FLAT HEAD FED COM 27H TANK BATTERY

ATTACHMENT 1: SPUR FACILITIES WITH ROE REVIEW

FIR FEDERAL TNK BTY
FIRECRACKER STATE TB
FLEMMING STATE OIL BATTERY
FOLK FEDERAL B TNK BTY
FOLK FEDERAL TNK BTY
FOLK STATE TANK BATTERY
FORAN STATE OIL BATTERY
GC FEDERAL 11 TNK BTY
GC FEDERAL 27 TNK BTY
GC FEDERAL TNK BTY
GILLESPIE STATE OIL BATTERY
GISSLER FEDERAL 13H TANK BATT
GJ WEST COOP SOUTH TB
GJ WEST COOP UNIT 092 BTY
GJ WEST COOP UNIT 191 BTY
GJ WEST COOP UNIT 210 BTY
GJ WEST COOP UNIT CENTRAL
GJ WEST COOP UNIT N TNK BTY
GOLD STAR TNK BTY
GOODMAN 22 TANK BATTERY
GRAVE DIGGER FEDERAL COM TANK BATTERY
GRAVE DIGGER ST COM #3H TANK BATTERY
GRAVE DIGGER STATE COM #8H SWB
HALBERD 27 ST 3H BATTERY
HANOVER STATE #3 (YESO)
HARPER STATE TNK BTY
HARVARD FEDERAL TNK BTY
HATFIELD B TB
HEARSE 36 ST COM TANK BATTERY
HOBGOBLIN 7 FED COM 4H TK BAT
HOLDER CB 11 TNK BTY
HOLDER CB FEDERAL 6&7 TNK BTY
HOLIDAY
HOUMA STATE TNK BTY
HT 18 FED 01.05.04 TANK BATTERY
HT 18 FEDERAL 8
HUBER 10,11,12 FEDERAL OIL TANK BATTERY
HUBER 3 FEDERAL OIL TANK BATTERY
HUBER 5 FEDERAL OIL TANK BATTERY
HYDRUS 10 FED 03.07.08.11 TANK BATTERY
HYDRUS 10 FED 04.05 TANK BATTERY
HYDRUS 10 FED 06.09.10.12 TANK BATTERY
IMPERIAL STATE TNK BTY
IVAR THE BONELESS FED 11H - BATTERY
JC FEDERAL 13 TNK BTY
JC FEDERAL 2 (SOUR) TNK BTY
JC FEDERAL 27 TNK BTY
JENKINS B FEDERAL TNK BTY
JG STATE 16 1 TANK BATTERY
JG STATE 16 7 TANK BATTERY
JON BOB 1
JUNIPER STATE TNK BTY
KIOWA OIL BATTERY
KOOL AID STATE
LAKEWOOD NORTH TANK BATTERY
LAKEWOOD SOUTH TANK BATTERY
LARA MICHELLE STATE OIL BTTY
LEAKER CC STATE TB
LEE 3 FEE 6H - TK BATT
LIVE OAK TANK BATTERY
MALCO 23 FEDERAL COM #13H
MAPLE STATE
MARACAS 22 STATE TANK BATTERY
MARY FEDERAL OIL BATTERY
MAYARO 22 STATE TANK BATTERY
MC FEDERAL 14 TANK BATTERY
MC FEDERAL 6 DEVONIAN
MC FEDERAL PADDOCK TNK BTY
MC SOUTHEAST BATTERY
MC STATE OIL BATTERY
MCCOY STATE TB
MCINTYRE A EAST TANK BATTERY
MCINTYRE B 10
MCINTYRE B 4
MCINTYRE B TNK BTY
MCINTYRE DK 15 TNK BTY
MCINTYRE DK FEDERAL 28H SWB
MEADOWHAWK 5 FEDERAL 3
MELROSE FEDERAL TNK BTY
MERAK 7 FEDERAL 8 TANK BATTERY
MESILLA STATE 3 & 5 TNK BTY
MESILLA STATE TNK BTY
MESQUITE STATE TANK BATTERY
MIMOSA STATE TNK BTY
MIRANDA FEDERAL B TNK BTY
MIRANDA FEDERAL TB

ATTACHMENT 1: SPUR FACILITIES WITH ROE REVIEW

MOE FEDERAL OIL BATTERY
MOHAWK FEDERAL TNK BTY
MONCRIEF 3 OIL BATTERY
MOORE STATE OIL BATTERY
MORRIS BOYD 26 FEE COM 1H
MORRIS BOYD TANK BATTERY
MORRIS E & F TANK BATTERY
MUSKEGON SOUTH STATE OIL BATTERY
NAVAHO FEDERAL TNK BTY
NELSON 13.23. TNK BATT
NEWCASTLE 6 FED COM - TANK BATTERY
NIRVANA TANK BATTERY
NOOSE FED 10 TANK BATTERY
NOOSE FED 5 TANK BATTERY
OKLAHOMA 32 TANK BATTERY
OSAGE BOYD 15 FED 09.12.13.14 TANK BATTERY
OSAGE BOYD YESO TANK BATTERY
PAINT 32 FEE OIL BATTERY
PAN CANADIAN A2-B3 TANK BATTERY
PASSION 1 FED PDK 5H TK BATT
PATTON 5 FEE 2H OIL BATTERY
PATTON 5 FEE 8H OIL BATTERY
PAWNEE STATE TNK BTY
PEACEMAKER 25 FEDERAL TANK BATTERY
PERE MARQUETTE 18 FEDERAL 1 TANK BATTERY
PILUM 15 FEE 2H BATTERY
PINTO 36 STATE COM 1H TNK BTY
PINTO 36 STATE COM 4H TNK BTY
PINTO 36 STATE TB
POLARIS B 5-10 TANK BTTY
POSEIDON 3 FEDERAL 4 TANK BATTERY
POSEIDON 3 FEDERAL 05.07.17.18 TANK BATTERY
PUCKETT 13 FEDERAL COM 35H
PUCKETT 13 FEDERAL TB
RAGNAR FED COM 25H - BATTERY
RANDALL FED 3 BATTERY
RED LAKE 32 TANK BATTERY
REDBUD FEDERAL TNK BTY
RINCON STATE TANK BATTERY
RJ UNIT NORTH TANK BATTERY
RJ UNIT SOUTH TANK BATTERY
RONCO FEDERAL #1
ROSE 02.03.04.05.06 TANK BATTERY
ROSE SOUTH TANK BATTERY
ROSS RANCH 09.13.14 BATTERY
SAM ADAMS 12 FED 4H UBB TK BATT
SANDY CROSSING 32 STATE COM 1
SCHLEY FEDERAL TNK BTY
SHAWNEE FEDERAL TNK BTY
SHELBY 23 BATTERY
SHERMAN 4 FEE 4H BATTERY
SHERMAN 4 FEE 6H BATTERY
SHORTY 2 STATE COM TANK BATTERY
SINCLAIR PARKE (PADDOCK) TNK BTY
SKELLY 605 BATTERY
SKELLY 942 BATTERY
SKELLY 968 BATTERY
SKELLY 973 BATTERY
SKELLY 989 BATTERY
SKELLY UNIT 907 CTB BATTERY
SKELLY UNIT 940 BATTERY
SOUTH BOYD FED COM OIL TANK BATTERY
SOUTH EMPIRE STATE COM 1
SPIKETAIL 5 STATE 2 TANK BATTERY
SPRUCE FEDERAL TNK BTY
STATE B GAS COM NO. 001
STATE S-19 YESO (SOUR) TNK BTY
STONEWALL 9 FEE #1H TBAT
STONEWALL 9 FEE 8H BATTERY
SUBMARINE 10 FED COM 2H OIL BAT
TAYLOR D TANK BATTEY
TENNECO STATE TNK BTY
TEX MACK FED
TEXACO BE TNK BTY
TEXAS 32 FEE TANK BATTERY
TEXMACK 36 STATE COM #1
TH STATE #1
THO STATE OIL BATTRY
THORNTAIL 31 FEDERAL 1
THUNDER ROAD FEDERAL OIL BTTY
TUMAK FED 3 BAT
VEGA 9 FED TANK BATTERY
VT 36 STATE #1H
W D MCINTYRE C 10
WAUKEE 36 STATE COME CTB
WD MCINTYRE C 8-9 TNK BTY

ATTACHMENT 1: SPUR FACILITIES WITH ROE REVIEW

WD MCINTYRE E TNK BTY
WELCH A 28 10.20.50 CTB
WESTERN FEDERAL TNK BTY
WHITE OAK STATE B TB
WHITE OAK STATE TNK BTY
WHITE STAR FEDERAL TNK BTY
WICHITA STATE TNK BTY
WILLOW STATE TNK BTY
YALE B OIL BATTERY
YALE STATE TANK BTY
YUCCA STATE TNK BTY

SPUR ENERGY PARTNERS, LLC

LEA COUNTY, NM (NAD 83 - NME)
VALHALLA 9-8 STATE
60H

Wellbore #1

Plan: PERMIT

Standard Planning Report

12 September, 2023

SPUR ENERGY PARTNERS

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well 60H
Company:	SPUR ENERGY PARTNERS, LLC	**TVD Reference:**	RKB = 20' @ 4189.00usft (AKITA 57)
Project:	LEA COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 20' @ 4189.00usft (AKITA 57)
Site:	VALHALLA 9-8 STATE	**North Reference:**	Grid
Well:	60H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Project LEA COUNTY, NM (NAD 83 - NME)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site VALHALLA 9-8 STATE

Site Position:		**Northing:**	673,908.00 usft	**Latitude:**	32.8507747
From:	Map	**Easting:**	748,713.80 usft	**Longitude:**	-103.6580484
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.366 °

Well 60H

Well Position	**+N/-S**	1,235.20 usft	**Northing:**	675,143.20 usft	**Latitude:**	32.8541688
	+E/-W	46.10 usft	**Easting:**	748,759.90 usft	**Longitude:**	-103.6578726
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	4,169.00 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	09/06/23	6.374	60.383	47,619

Design PERMIT

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	269.48

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.000	
422.56	2.45	100.85	422.53	-0.49	2.57	2.00	2.00	0.00	100.854	
5,609.56	2.45	100.85	5,604.78	-42.27	220.45	0.00	0.00	0.00	0.000	
6,649.63	60.00	269.48	6,471.81	-51.51	-256.12	6.00	5.53	16.21	168.885	
6,849.63	60.00	269.48	6,571.81	-53.09	-429.32	0.00	0.00	0.00	0.000	
7,158.85	90.92	269.48	6,648.50	-55.80	-725.00	10.00	10.00	0.00	0.000	
9,658.85	90.92	269.48	6,608.28	-78.67	-3,224.57	0.00	0.00	0.00	0.000	
9,935.03	90.92	275.00	6,603.84	-67.90	-3,500.40	2.00	0.00	2.00	89.973	
10,995.03	90.92	275.00	6,586.82	24.48	-4,556.23	0.00	0.00	0.00	0.000	
11,494.97	90.92	265.00	6,578.77	24.48	-5,055.47	2.00	0.00	-2.00	-89.920	
12,934.97	90.92	265.00	6,555.65	-101.01	-6,489.80	0.00	0.00	0.00	0.000	
13,158.94	90.92	269.48	6,552.06	-111.79	-6,713.43	2.00	0.00	2.00	89.964	
14,555.94	90.92	269.48	6,529.62	-124.47	-8,110.19	0.00	0.00	0.00	0.000	

SPUR ENERGY PARTNERS

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well 60H
Company:	SPUR ENERGY PARTNERS, LLC	**TVD Reference:**	RKB = 20' @ 4189.00usft (AKITA 57)
Project:	LEA COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 20' @ 4189.00usft (AKITA 57)
Site:	VALHALLA 9-8 STATE	**North Reference:**	Grid
Well:	60H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VALHALLA 9-8 STATE 60H SHL: 825' FNL, 525' FWL									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	100.85	399.98	-0.33	1.71	-1.71	2.00	2.00	0.00
422.56	2.45	100.85	422.53	-0.49	2.57	-2.57	2.00	2.00	0.00
500.00	2.45	100.85	499.89	-1.12	5.83	-5.82	0.00	0.00	0.00
600.00	2.45	100.85	599.80	-1.92	10.03	-10.01	0.00	0.00	0.00
700.00	2.45	100.85	699.71	-2.73	14.23	-14.20	0.00	0.00	0.00
800.00	2.45	100.85	799.62	-3.53	18.43	-18.40	0.00	0.00	0.00
900.00	2.45	100.85	899.53	-4.34	22.63	-22.59	0.00	0.00	0.00
1,000.00	2.45	100.85	999.43	-5.14	26.83	-26.78	0.00	0.00	0.00
1,100.00	2.45	100.85	1,099.34	-5.95	31.03	-30.97	0.00	0.00	0.00
1,200.00	2.45	100.85	1,199.25	-6.75	35.23	-35.17	0.00	0.00	0.00
1,300.00	2.45	100.85	1,299.16	-7.56	39.43	-39.36	0.00	0.00	0.00
1,400.00	2.45	100.85	1,399.07	-8.37	43.63	-43.55	0.00	0.00	0.00
1,500.00	2.45	100.85	1,498.98	-9.17	47.83	-47.75	0.00	0.00	0.00
1,600.00	2.45	100.85	1,598.89	-9.98	52.03	-51.94	0.00	0.00	0.00
1,700.00	2.45	100.85	1,698.79	-10.78	56.23	-56.13	0.00	0.00	0.00
1,800.00	2.45	100.85	1,798.70	-11.59	60.43	-60.33	0.00	0.00	0.00
1,900.00	2.45	100.85	1,898.61	-12.39	64.63	-64.52	0.00	0.00	0.00
2,000.00	2.45	100.85	1,998.52	-13.20	68.83	-68.71	0.00	0.00	0.00
2,100.00	2.45	100.85	2,098.43	-14.00	73.03	-72.90	0.00	0.00	0.00
2,200.00	2.45	100.85	2,198.34	-14.81	77.24	-77.10	0.00	0.00	0.00
2,300.00	2.45	100.85	2,298.24	-15.61	81.44	-81.29	0.00	0.00	0.00
2,400.00	2.45	100.85	2,398.15	-16.42	85.64	-85.48	0.00	0.00	0.00
2,500.00	2.45	100.85	2,498.06	-17.22	89.84	-89.68	0.00	0.00	0.00
2,600.00	2.45	100.85	2,597.97	-18.03	94.04	-93.87	0.00	0.00	0.00
2,700.00	2.45	100.85	2,697.88	-18.84	98.24	-98.06	0.00	0.00	0.00
2,800.00	2.45	100.85	2,797.79	-19.64	102.44	-102.26	0.00	0.00	0.00
2,900.00	2.45	100.85	2,897.70	-20.45	106.64	-106.45	0.00	0.00	0.00
3,000.00	2.45	100.85	2,997.60	-21.25	110.84	-110.64	0.00	0.00	0.00
3,100.00	2.45	100.85	3,097.51	-22.06	115.04	-114.83	0.00	0.00	0.00
3,200.00	2.45	100.85	3,197.42	-22.86	119.24	-119.03	0.00	0.00	0.00
3,300.00	2.45	100.85	3,297.33	-23.67	123.44	-123.22	0.00	0.00	0.00
3,400.00	2.45	100.85	3,397.24	-24.47	127.64	-127.41	0.00	0.00	0.00
3,500.00	2.45	100.85	3,497.15	-25.28	131.84	-131.61	0.00	0.00	0.00
3,600.00	2.45	100.85	3,597.06	-26.08	136.04	-135.80	0.00	0.00	0.00
3,700.00	2.45	100.85	3,696.96	-26.89	140.24	-139.99	0.00	0.00	0.00
3,800.00	2.45	100.85	3,796.87	-27.69	144.44	-144.19	0.00	0.00	0.00
3,900.00	2.45	100.85	3,896.78	-28.50	148.64	-148.38	0.00	0.00	0.00
4,000.00	2.45	100.85	3,996.69	-29.30	152.84	-152.57	0.00	0.00	0.00
4,100.00	2.45	100.85	4,096.60	-30.11	157.04	-156.76	0.00	0.00	0.00
4,200.00	2.45	100.85	4,196.51	-30.92	161.24	-160.96	0.00	0.00	0.00
4,300.00	2.45	100.85	4,296.41	-31.72	165.44	-165.15	0.00	0.00	0.00
4,400.00	2.45	100.85	4,396.32	-32.53	169.65	-169.34	0.00	0.00	0.00
4,500.00	2.45	100.85	4,496.23	-33.33	173.85	-173.54	0.00	0.00	0.00
4,600.00	2.45	100.85	4,596.14	-34.14	178.05	-177.73	0.00	0.00	0.00
4,700.00	2.45	100.85	4,696.05	-34.94	182.25	-181.92	0.00	0.00	0.00
4,800.00	2.45	100.85	4,795.96	-35.75	186.45	-186.11	0.00	0.00	0.00
4,900.00	2.45	100.85	4,895.87	-36.55	190.65	-190.31	0.00	0.00	0.00
5,000.00	2.45	100.85	4,995.77	-37.36	194.85	-194.50	0.00	0.00	0.00
5,100.00	2.45	100.85	5,095.68	-38.16	199.05	-198.69	0.00	0.00	0.00

SPUR ENERGY PARTNERS

Planning Report

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Company:	SPUR ENERGY PARTNERS, LLC	**TVD Reference:**	RKB = 20' @ 4189.00usft (AKITA 57)
Project:	LEA COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 20' @ 4189.00usft (AKITA 57)
Site:	VALHALLA 9-8 STATE	**North Reference:**	Grid
Well:	60H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,200.00	2.45	100.85	5,195.59	-38.97	203.25	-202.89	0.00	0.00	0.00
5,300.00	2.45	100.85	5,295.50	-39.77	207.45	-207.08	0.00	0.00	0.00
5,400.00	2.45	100.85	5,395.41	-40.58	211.65	-211.27	0.00	0.00	0.00
5,500.00	2.45	100.85	5,495.32	-41.38	215.85	-215.47	0.00	0.00	0.00
5,609.56	2.45	100.85	5,604.78	-42.27	220.45	-220.06	0.00	0.00	0.00
VALHALLA 9-8 STATE 60H KOP: 5609.56' MD									
5,650.00	0.47	182.27	5,645.20	-42.60	221.30	-220.90	6.00	-4.89	201.35
5,700.00	3.06	260.87	5,695.18	-43.01	219.97	-219.57	6.00	5.17	157.20
5,750.00	6.04	265.28	5,745.02	-43.44	216.03	-215.63	6.00	5.96	8.82
5,800.00	9.03	266.78	5,794.58	-43.88	209.49	-209.08	6.00	5.99	2.99
5,850.00	12.03	267.53	5,843.73	-44.33	200.36	-199.95	6.00	5.99	1.51
5,900.00	15.03	267.99	5,892.34	-44.78	188.68	-188.26	6.00	6.00	0.92
5,950.00	18.03	268.30	5,940.27	-45.24	174.46	-174.04	6.00	6.00	0.62
6,000.00	21.03	268.52	5,987.38	-45.70	157.76	-157.34	6.00	6.00	0.45
6,050.00	24.03	268.69	6,033.56	-46.16	138.61	-138.19	6.00	6.00	0.34
6,100.00	27.02	268.82	6,078.68	-46.63	117.07	-116.65	6.00	6.00	0.27
6,150.00	30.02	268.93	6,122.61	-47.10	93.20	-92.77	6.00	6.00	0.22
6,200.00	33.02	269.02	6,165.22	-47.56	67.07	-66.63	6.00	6.00	0.18
6,250.00	36.02	269.10	6,206.41	-48.03	38.74	-38.30	6.00	6.00	0.15
6,300.00	39.02	269.17	6,246.06	-48.49	8.29	-7.85	6.00	6.00	0.13
6,350.00	42.02	269.22	6,284.07	-48.94	-24.19	24.63	6.00	6.00	0.12
6,400.00	45.02	269.28	6,320.32	-49.39	-58.62	59.06	6.00	6.00	0.10
6,450.00	48.02	269.32	6,354.72	-49.84	-94.89	95.34	6.00	6.00	0.09
6,500.00	51.02	269.37	6,387.17	-50.27	-132.92	133.37	6.00	6.00	0.09
6,550.00	54.02	269.41	6,417.59	-50.70	-172.59	173.04	6.00	6.00	0.08
6,600.00	57.02	269.44	6,445.89	-51.11	-213.80	214.26	6.00	6.00	0.07
6,649.63	60.00	269.48	6,471.81	-51.51	-256.12	256.58	6.00	6.00	0.07
6,700.00	60.00	269.48	6,497.00	-51.91	-299.73	300.19	0.00	0.00	0.00
6,800.00	60.00	269.48	6,547.00	-52.70	-386.33	386.80	0.00	0.00	0.00
6,849.63	60.00	269.48	6,571.81	-53.09	-429.32	429.78	0.00	0.00	0.00
6,900.00	65.04	269.48	6,595.05	-53.50	-473.98	474.45	10.00	10.00	0.00
6,950.00	70.04	269.48	6,614.15	-53.93	-520.17	520.64	10.00	10.00	0.00
7,000.00	75.04	269.48	6,629.15	-54.36	-567.85	568.32	10.00	10.00	0.00
7,050.00	80.04	269.48	6,639.93	-54.81	-616.65	617.13	10.00	10.00	0.00
7,059.10	80.95	269.48	6,641.44	-54.89	-625.63	626.10	10.00	10.00	0.00
VALHALLA 9-8 STATE 60H FTP: 875' FNL, 100' FEL									
7,100.00	85.04	269.48	6,646.43	-55.26	-666.21	666.69	10.00	10.00	0.00
7,150.00	90.04	269.48	6,648.57	-55.72	-716.15	716.63	10.00	10.00	0.00
7,158.85	90.92	269.48	6,648.50	-55.80	-725.00	725.48	10.00	10.00	0.00
VALHALLA 9-8 STATE 60H LP: 875' FNL, 200' FEL									
7,200.00	90.92	269.48	6,647.84	-56.18	-766.14	766.62	0.00	0.00	0.00
7,300.00	90.92	269.48	6,646.23	-57.09	-866.12	866.61	0.00	0.00	0.00
7,400.00	90.92	269.48	6,644.62	-58.01	-966.11	966.59	0.00	0.00	0.00
7,500.00	90.92	269.48	6,643.01	-58.92	-1,066.09	1,066.58	0.00	0.00	0.00
7,600.00	90.92	269.48	6,641.40	-59.84	-1,166.07	1,166.57	0.00	0.00	0.00
7,700.00	90.92	269.48	6,639.80	-60.75	-1,266.06	1,266.55	0.00	0.00	0.00
7,800.00	90.92	269.48	6,638.19	-61.67	-1,366.04	1,366.54	0.00	0.00	0.00
7,900.00	90.92	269.48	6,636.58	-62.58	-1,466.02	1,466.53	0.00	0.00	0.00
8,000.00	90.92	269.48	6,634.97	-63.50	-1,566.00	1,566.52	0.00	0.00	0.00
8,100.00	90.92	269.48	6,633.36	-64.41	-1,665.99	1,666.50	0.00	0.00	0.00
8,200.00	90.92	269.48	6,631.75	-65.33	-1,765.97	1,766.49	0.00	0.00	0.00
8,300.00	90.92	269.48	6,630.14	-66.24	-1,865.95	1,866.48	0.00	0.00	0.00
8,400.00	90.92	269.48	6,628.53	-67.16	-1,965.94	1,966.46	0.00	0.00	0.00

SPUR ENERGY PARTNERS

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well 60H
Company:	SPUR ENERGY PARTNERS, LLC	**TVD Reference:**	RKB = 20' @ 4189.00usft (AKITA 57)
Project:	LEA COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 20' @ 4189.00usft (AKITA 57)
Site:	VALHALLA 9-8 STATE	**North Reference:**	Grid
Well:	60H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,500.00	90.92	269.48	6,626.93	-68.07	-2,065.92	2,066.45	0.00	0.00	0.00
8,600.00	90.92	269.48	6,625.32	-68.99	-2,165.90	2,166.44	0.00	0.00	0.00
8,700.00	90.92	269.48	6,623.71	-69.90	-2,265.88	2,266.43	0.00	0.00	0.00
8,800.00	90.92	269.48	6,622.10	-70.82	-2,365.87	2,366.41	0.00	0.00	0.00
8,900.00	90.92	269.48	6,620.49	-71.73	-2,465.85	2,466.40	0.00	0.00	0.00
9,000.00	90.92	269.48	6,618.88	-72.65	-2,565.83	2,566.39	0.00	0.00	0.00
9,100.00	90.92	269.48	6,617.27	-73.56	-2,665.82	2,666.37	0.00	0.00	0.00
9,200.00	90.92	269.48	6,615.67	-74.48	-2,765.80	2,766.36	0.00	0.00	0.00
9,300.00	90.92	269.48	6,614.06	-75.39	-2,865.78	2,866.35	0.00	0.00	0.00
9,400.00	90.92	269.48	6,612.45	-76.31	-2,965.76	2,966.33	0.00	0.00	0.00
9,500.00	90.92	269.48	6,610.84	-77.22	-3,065.75	3,066.32	0.00	0.00	0.00
9,600.00	90.92	269.48	6,609.23	-78.14	-3,165.73	3,166.31	0.00	0.00	0.00
9,658.85	90.92	269.48	6,608.28	-78.67	-3,224.57	3,225.15	0.00	0.00	0.00
9,700.00	90.92	270.30	6,607.62	-78.76	-3,265.71	3,266.29	2.00	0.00	2.00
9,800.00	90.92	272.30	6,606.01	-76.49	-3,365.67	3,366.23	2.00	0.00	2.00
9,900.00	90.92	274.30	6,604.40	-70.74	-3,465.49	3,465.99	2.00	0.00	2.00
9,935.03	90.92	275.00	6,603.84	-67.90	-3,500.40	3,500.87	2.00	0.00	2.00
10,000.00	90.92	275.00	6,602.80	-62.23	-3,565.11	3,565.53	0.00	0.00	0.00
10,100.00	90.92	275.00	6,601.19	-53.52	-3,664.72	3,665.05	0.00	0.00	0.00
10,200.00	90.92	275.00	6,599.59	-44.81	-3,764.32	3,764.58	0.00	0.00	0.00
10,300.00	90.92	275.00	6,597.98	-36.09	-3,863.93	3,864.10	0.00	0.00	0.00
10,400.00	90.92	275.00	6,596.38	-27.38	-3,963.54	3,963.62	0.00	0.00	0.00
10,500.00	90.92	275.00	6,594.77	-18.66	-4,063.14	4,063.15	0.00	0.00	0.00
10,600.00	90.92	275.00	6,593.17	-9.95	-4,162.75	4,162.67	0.00	0.00	0.00
10,700.00	90.92	275.00	6,591.56	-1.23	-4,262.36	4,262.19	0.00	0.00	0.00
10,800.00	90.92	275.00	6,589.95	7.48	-4,361.96	4,361.72	0.00	0.00	0.00
10,900.00	90.92	275.00	6,588.35	16.20	-4,461.57	4,461.24	0.00	0.00	0.00
10,995.03	90.92	275.00	6,586.82	24.48	-4,556.23	4,555.82	0.00	0.00	0.00
11,000.00	90.92	274.90	6,586.74	24.91	-4,561.18	4,560.76	2.00	0.00	-2.00
11,100.00	90.92	272.90	6,585.13	31.71	-4,660.93	4,660.45	2.00	0.00	-2.00
11,200.00	90.92	270.90	6,583.52	35.02	-4,760.86	4,760.34	2.00	0.00	-2.00
11,300.00	90.92	268.90	6,581.91	34.85	-4,860.84	4,860.32	2.00	0.00	-2.00
11,400.00	90.92	266.90	6,580.30	31.18	-4,960.75	4,960.26	2.00	0.00	-2.00
11,494.97	90.92	265.00	6,578.77	24.48	-5,055.47	5,055.04	2.00	0.00	-2.00
11,500.00	90.92	265.00	6,578.69	24.04	-5,060.48	5,060.05	0.00	0.00	0.00
11,600.00	90.92	265.00	6,577.09	15.32	-5,160.09	5,159.73	0.00	0.00	0.00
11,700.00	90.92	265.00	6,575.48	6.61	-5,259.69	5,259.42	0.00	0.00	0.00
11,800.00	90.92	265.00	6,573.88	-2.10	-5,359.30	5,359.10	0.00	0.00	0.00
11,900.00	90.92	265.00	6,572.27	-10.82	-5,458.90	5,458.78	0.00	0.00	0.00
12,000.00	90.92	265.00	6,570.67	-19.53	-5,558.51	5,558.46	0.00	0.00	0.00
12,100.00	90.92	265.00	6,569.06	-28.25	-5,658.12	5,658.14	0.00	0.00	0.00
12,200.00	90.92	265.00	6,567.45	-36.96	-5,757.72	5,757.82	0.00	0.00	0.00
12,300.00	90.92	265.00	6,565.85	-45.68	-5,857.33	5,857.50	0.00	0.00	0.00
12,400.00	90.92	265.00	6,564.24	-54.39	-5,956.94	5,957.19	0.00	0.00	0.00
12,500.00	90.92	265.00	6,562.64	-63.11	-6,056.54	6,056.87	0.00	0.00	0.00
12,600.00	90.92	265.00	6,561.03	-71.82	-6,156.15	6,156.55	0.00	0.00	0.00
12,700.00	90.92	265.00	6,559.43	-80.53	-6,255.76	6,256.23	0.00	0.00	0.00
12,800.00	90.92	265.00	6,557.82	-89.25	-6,355.36	6,355.91	0.00	0.00	0.00
12,900.00	90.92	265.00	6,556.22	-97.96	-6,454.97	6,455.59	0.00	0.00	0.00
12,934.97	90.92	265.00	6,555.65	-101.01	-6,489.80	6,490.45	0.00	0.00	0.00
13,000.00	90.92	266.30	6,554.61	-105.94	-6,554.64	6,555.33	2.00	0.00	2.00
13,100.00	90.92	268.30	6,553.00	-110.65	-6,654.51	6,655.24	2.00	0.00	2.00
13,158.94	90.92	269.48	6,552.06	-111.79	-6,713.43	6,714.17	2.00	0.00	2.00
13,200.00	90.92	269.48	6,551.40	-112.16	-6,754.48	6,755.22	0.00	0.00	0.00

SPUR ENERGY PARTNERS

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well 60H
Company:	SPUR ENERGY PARTNERS, LLC	**TVD Reference:**	RKB = 20' @ 4189.00usft (AKITA 57)
Project:	LEA COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 20' @ 4189.00usft (AKITA 57)
Site:	VALHALLA 9-8 STATE	**North Reference:**	Grid
Well:	60H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,300.00	90.92	269.48	6,549.79	-113.07	-6,854.46	6,855.21	0.00	0.00	0.00
13,400.00	90.92	269.48	6,548.19	-113.98	-6,954.45	6,955.20	0.00	0.00	0.00
13,500.00	90.92	269.48	6,546.58	-114.89	-7,054.43	7,055.18	0.00	0.00	0.00
13,600.00	90.92	269.48	6,544.97	-115.79	-7,154.41	7,155.17	0.00	0.00	0.00
13,700.00	90.92	269.48	6,543.37	-116.70	-7,254.40	7,255.16	0.00	0.00	0.00
13,800.00	90.92	269.48	6,541.76	-117.61	-7,354.38	7,355.14	0.00	0.00	0.00
13,900.00	90.92	269.48	6,540.16	-118.52	-7,454.36	7,455.13	0.00	0.00	0.00
14,000.00	90.92	269.48	6,538.55	-119.42	-7,554.34	7,555.12	0.00	0.00	0.00
14,100.00	90.92	269.48	6,536.95	-120.33	-7,654.33	7,655.10	0.00	0.00	0.00
14,200.00	90.92	269.48	6,535.34	-121.24	-7,754.31	7,755.09	0.00	0.00	0.00
14,300.00	90.92	269.48	6,533.73	-122.15	-7,854.29	7,855.08	0.00	0.00	0.00
14,400.00	90.92	269.48	6,532.13	-123.05	-7,954.28	7,955.07	0.00	0.00	0.00
14,500.00	90.92	269.48	6,530.52	-123.96	-8,054.26	8,055.05	0.00	0.00	0.00
14,555.94	90.92	269.48	6,529.62	-124.47	-8,110.19	8,110.99	0.00	0.00	0.00
VALHALLA 9-8 STATE 60H BHL: 875' FNL, 2310' FEL									

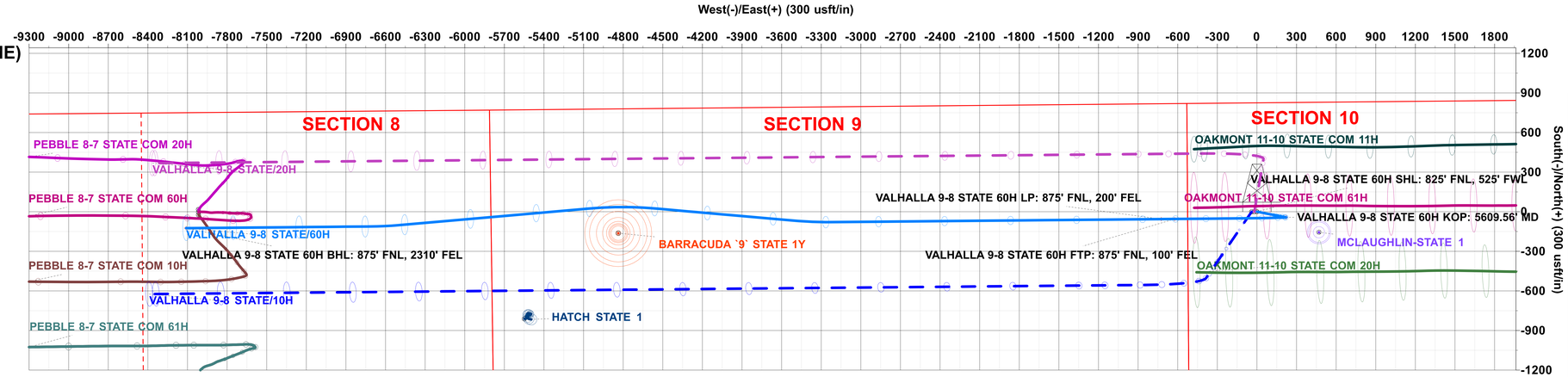
Design Targets

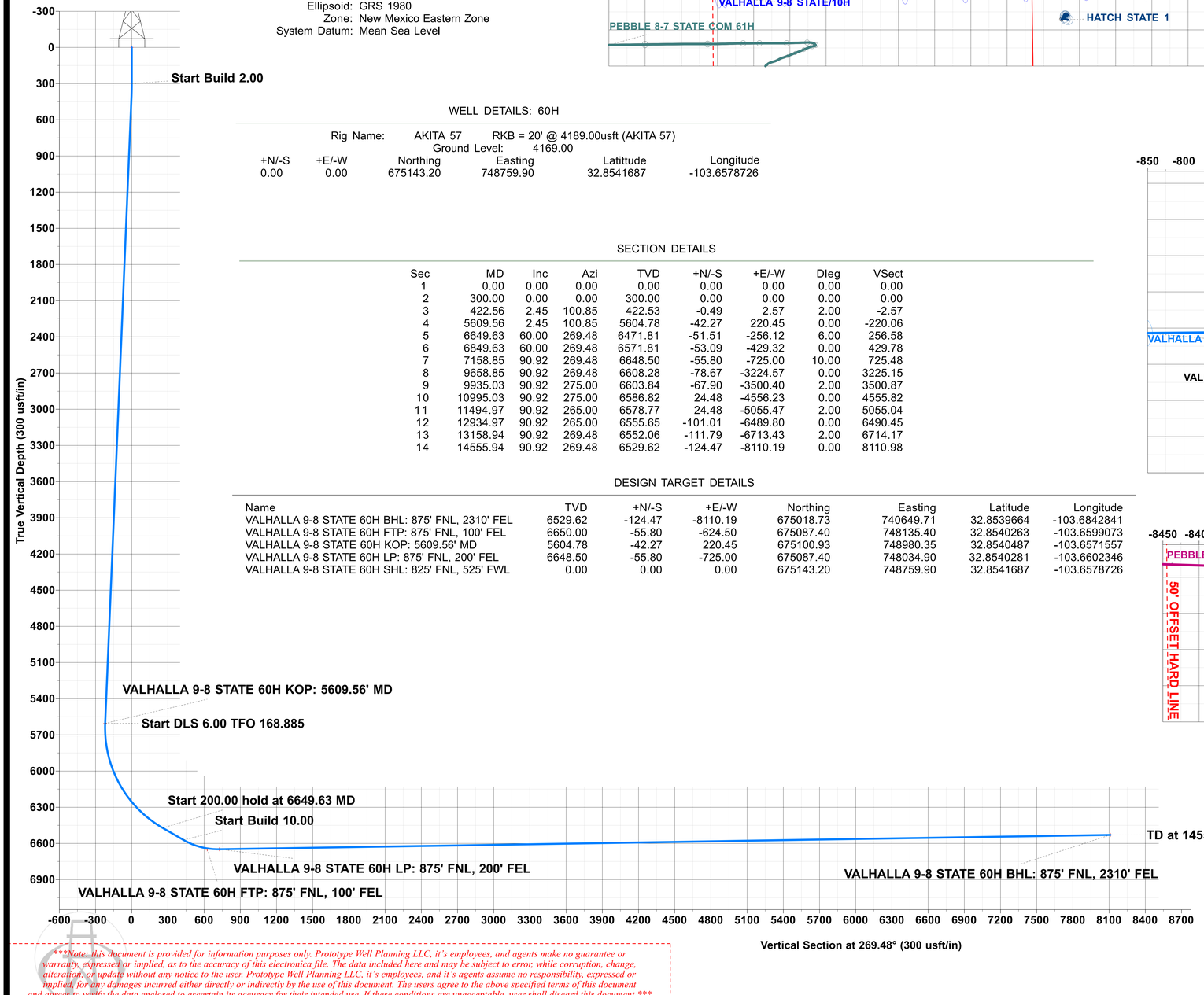
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
VALHALLA 9-8 STATE - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	675,143.20	748,759.90	32.8541688	-103.6578726
VALHALLA 9-8 STATE - plan hits target center - Point	0.00	0.00	5,604.78	-42.27	220.45	675,100.93	748,980.35	32.8540487	-103.6571556
VALHALLA 9-8 STATE - plan hits target center - Point	0.00	0.00	6,529.62	-124.47	-8,110.19	675,018.73	740,649.71	32.8539664	-103.6842840
VALHALLA 9-8 STATE - plan hits target center - Point	0.00	0.00	6,648.50	-55.80	-725.00	675,087.40	748,034.90	32.8540281	-103.6602346
VALHALLA 9-8 STATE - plan misses target center by 8.69usft at 7059.10usft MD (6641.44 TVD, -54.89 N, -625.63 E) - Point	0.00	0.00	6,650.00	-55.80	-624.50	675,087.40	748,135.40	32.8540264	-103.6599073

Project: LEA COUNTY, NM (NAD 83 - NME)
Site: VALHALLA 9-8 STATE
Well: 60H
Wellbore: Wellbore #1
Design: PERMIT

PROJECT DETAILS: LEA COUNTY, NM (NAD 83 - NME)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level





WELL DETAILS: 60H

Rig Name: AKITA 57 RKB = 20' @ 4189.00usft (AKITA 57)
Ground Level: 4169.00

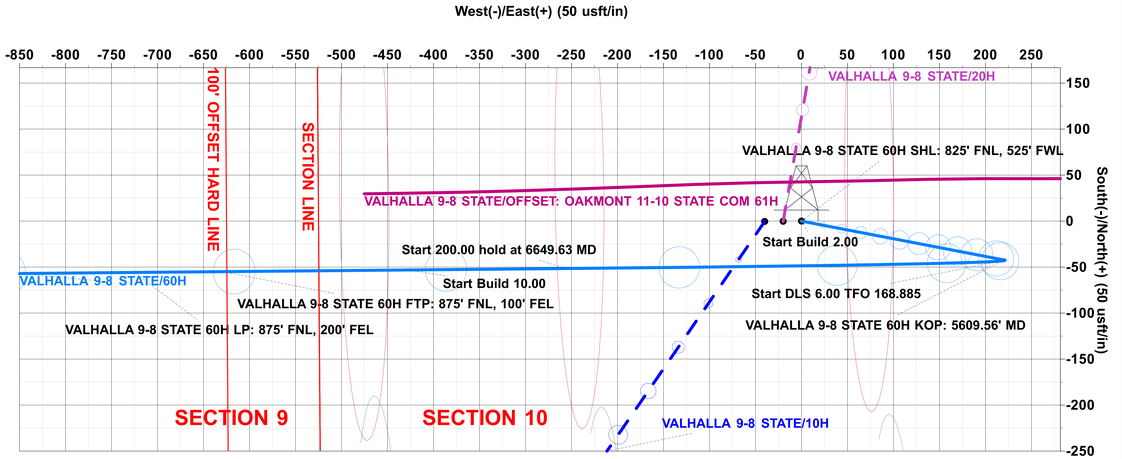
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	675143.20	748759.90	32.8541687	-103.6578726

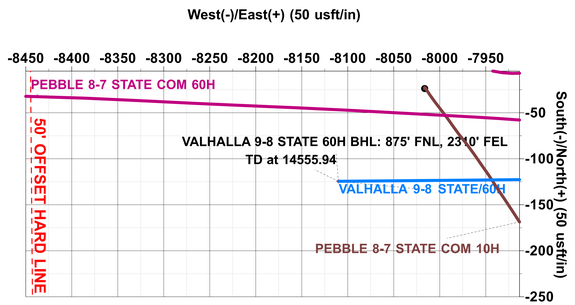
SECTION DETAILS

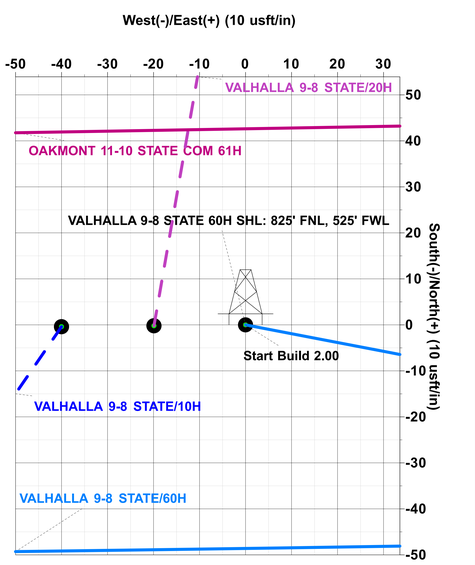
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00
3	422.56	2.45	100.85	422.53	-0.49	2.57	2.00	-2.57
4	5609.56	2.45	100.85	5604.78	-42.27	220.45	0.00	-220.06
5	6649.63	60.00	269.48	6471.81	-51.51	-256.12	6.00	256.58
6	6849.63	60.00	269.48	6571.81	-53.09	-429.32	0.00	429.78
7	7158.85	90.92	269.48	6648.50	-55.80	-725.00	10.00	725.48
8	9658.85	90.92	269.48	6608.28	-78.67	-3224.57	0.00	3225.15
9	9935.03	90.92	275.00	6603.84	-67.90	-3500.40	2.00	3500.87
10	10995.03	90.92	275.00	6586.82	24.48	-4556.23	0.00	4555.82
11	11494.97	90.92	265.00	6578.77	24.48	-5055.47	2.00	5055.04
12	12934.97	90.92	265.00	6555.65	-101.01	-6489.80	0.00	6490.45
13	13158.94	90.92	269.48	6552.06	-111.79	-6713.43	2.00	6714.17
14	14555.94	90.92	269.48	6529.62	-124.47	-8110.19	0.00	8110.98

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
VALHALLA 9-8 STATE 60H BHL: 875' FNL, 2310' FEL	6529.62	-124.47	-8110.19	675018.73	740649.71	32.8539664	-103.6842841
VALHALLA 9-8 STATE 60H FTP: 875' FNL, 100' FEL	6650.00	-55.80	-624.50	675087.40	748135.40	32.8540263	-103.6599073
VALHALLA 9-8 STATE 60H KOP: 5609.56' MD	5604.78	-42.27	220.45	675100.93	748980.35	32.8540487	-103.6571557
VALHALLA 9-8 STATE 60H LP: 875' FNL, 200' FEL	6648.50	-55.80	-725.00	675087.40	748034.90	32.8540281	-103.6602346
VALHALLA 9-8 STATE 60H SHL: 825' FNL, 525' FWL	0.00	0.00	0.00	675143.20	748759.90	32.8541687	-103.6578726







Plan: PERMIT (60H/Wellbore #1)

Created By: PROTOTYPE WELL PLANNING / Date: 14:27, September 12 2023

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: Spur Energy Partners LLC **OGRID:** 326475 **Date:** 09 / 19 / 2023

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Valhalla 9-8 State 10H	30-015	D-10-17S-33E	825' FNL 485' FWL	425 BBL/D	348 MCF/D	2,206 BBL/D
Valhalla 9-8 State 20H	30-015	D-10-17S-33E	825' FNL 505' FWL	425 BBL/D	348 MCF/D	2,206 BBL/D
Valhalla 9-8 State 60H	30-015	D-10-17S-33E	825' FNL 525' FWL	360 BBL/D	243 MCF/D	1,407 BBL/D

IV. Central Delivery Point Name: Valhalla 9-8 State Tank Battery [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Valhalla 9-8 State 10H	30-015	12/14/2023	12/23/2023	3/19/2024	5/1/2024	5/3/2024
Valhalla 9-8 State 20H	30-015	12/23/2023	1/1/2024	3/19/2024	5/1/2024	5/3/2024
Valhalla 9-8 State 60H	30-015	1/1/2024	1/10/2024	3/19/2024	5/1/2024	5/3/2024

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.
If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	Cynthia Villacorta
Printed Name:	Cynthia Villacorta
Title:	Regulatory Consultant
E-mail Address:	cynthia.villacorta@spurenergy.com
Date:	9/19/2023
Phone:	832-661-0711

OIL CONSERVATION DIVISION

(Only applicable when submitted as a standalone form)

Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

Natural Gas Management Plan – Attachment

VI. Separation equipment will be sized by construction engineering staff based on anticipated daily production to ensure adequate capacity.

VII. Spur Energy Partners LLC ("Spur") will take the following actions to comply with the regulations listed in 19.15.27.8:

A. Spur will maximize the recovery of natural gas by minimizing waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. Spur will ensure that our wells will be connected to a natural gas gathering system with sufficient capacity to transport natural gas.

B. All drilling operations will be equipped with a rig flare at least 100 feet from the nearest surface hole location. Rig flare will be utilized to combust any natural gas that is brought to surface during normal operations. In the case of emergency, flaring volumes will be reported appropriately.

C. During completion operations any natural gas brought to surface will be flared. Immediately following completion operations, wells will flow to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. If natural gas does not meet gathering pipeline specifications, Spur will flare for 60 days or until natural gas meets the pipeline specifications. Spur will ensure flare is properly sized and is equipped with an automatic igniter or continuous pilot. Gas samples will be taken twice per week and natural gas will be routed into a gathering system as soon as the pipeline specifications are met.

D. Natural gas will not be flared with the exception of 19.15.27.8(D)(1-4). If there is no adequate takeaway for the separator gas, wells will be shut-in until that natural gas gathering system is available with exception of emergency or malfunction situations. Volumes will be reported appropriately.

E. Spur will comply with performance standards pursuant to 19.15.27.8(E)(1-8). All equipment will be designed and sized to handle maximum pressures to minimize waste. Storage tanks constructed after May 25, 2021 will be equipped with an automatic gauging system that reduces venting of natural gas. Flare stacks installed or replaced after May 25, 2021 will be equipped with an automatic ignitor or continuous pilot. Spur will conduct AVO inspections as described in 19.15.27.8(E)(5)(a) with frequencies specified in 19.15.27.8(E)(5)(b) and (c). All emergencies or malfunctions will be resolved as quickly and safely as possible to minimize waste.

F. The volume of natural gas that is vented or flared as the result of an emergency or malfunction during drilling and/or completion operations will be estimated and reported accordingly. The volume of natural gas that is vented, flared or beneficially used during production operations, will be measured and reported accordingly. Spur will install equipment to measure the volume of natural gas flared from existing piping or a flowline piped from equipment such as high-pressure separators, heater treaters, or VRUs associated with a well or facility associated with a well authorized by an APD after May 25, 2021 that has an average daily production of less than 60,000 cubic feet of natural gas. If metering is not practicable due to circumstances such as low flow rate or low pressure venting or flaring, Spur will estimate the volume of flared or vented natural gas. Measuring equipment will conform to industry standards and will not be equipped with a manifold

that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing equipment.

VIII. For maintenance activities involving production equipment and compression, venting be limited to the depressurization of the subject equipment to ensure safe working conditions. For maintenance of production equipment, the associated producing wells will be shut-in to eliminate venting. For maintenance of VRUs, all natural gas normally routed to the VRU will be routed to flare.

Spur Energy Partners LLC – Valhalla 9-8 State #60H

1. Geologic Formations

VALHALLA 9-8 STATE (North Pad) Formation Tops			
FORMATION	DEPTH (KB TVD)	LITHOLOGY	EXPECTED FLUIDS
QUATERNARY	0'	DOLOMITE, OTHER: CALICHE	USEABLE WATER
RUSTLER	1475'	DOLOMITE, SHALE, ANHYDRITE	OTHER: BRACKISH WATER
TOP SALT	1585'	ANHYDRITE	OTHER: SALT
TANSILL	2695'	SANDSTONE, DOLOMITE	NONE
YATES	2785'	DOLOMITE, LIMESTONE, SHALE, SILTSTONE	NONE
SEVEN RIVERS	3135'	DOLOMITE, LIMESTONE	NATURAL GAS, OIL
QUEEN	3775'	SANDSTONE W INTERBEDDED DOLOMITE, ANHYDRITE	NATURAL GAS, OIL
GRAYBURG	4215'	DOLOMITE W MINOR SANDSTONE, ANHYDRITE	NATURAL GAS, OIL
SAN ANDRES	4530'	DOLOMITIC LIMESTONE	NATURAL GAS, OIL
GLORIETA	5990'	DOLOMITE, SILTSONE	NATURAL GAS, OIL
YESO - Paddock	6080'	DOLOMITIC LIMESTONE	NATURAL GAS, OIL
YESO - Blinebry	6465'	DOLOMITIC LIMESTONE	NATURAL GAS, OIL
Tubb	7295'	DOLOMITIC LIMESTONE	NATURAL GAS, OIL

TVD of Target	6,530'
MD at TD	14,556'

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

2. Casing Program

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

Primary Plan:

Casing Formation Set Interval	Hole Size (in)	Casing Interval		Csg. Size (in)	Weight	Grade	Conn.	SF	SF Burst	Body SF	Joint SF
		From (ft)	To (ft)		(lbs)			Collapse		Tension	Tension
Rustler	17.5	0	1525	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
Seven Rivers	12.25	0	3275	9.625	36	J-55	BTC	1.125	1.2	1.4	1.4
N/A	8.75	0	6900	7	32	P-110	BK-HT	1.125	1.2	1.4	1.4
Yeso	8.75	6900	14556	5.5	20	P-110	BK-HT	1.125	1.2	1.4	1.4
								SF Values will meet or Exceed			

Spur Energy Partners LLC – Valhalla 9-8 State #60H

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	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 justification (loading assumptions, casing design criteria).	Y
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 3rd 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 2nd 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?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Primary Plan:

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface Tail	0	1525	165%
Intermediate (Lead)	0	1525	100%
Intermediate (Tail)	1525	3275	100%
Production (Lead)	0	5900	100%
Production (Tail)	5900	14556	25%

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H20 (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface Tail	1487	13.2	1.87	9.92	6:59	Clas C Premium Plus Cement
Intermediate (Lead)	231	12	2.4	13.48	8:12	Clas C Premium Plus Cement
Intermediate (Tail)	596	13.2	1.87	9.92	6:59	Clas C Premium Plus Cement
Production (Lead)	1140	11.4	2.42	15.29	N/A	Clas C Premium Plus Cement
Production (Tail)	1676	13.2	1.56	9.81	N/A	Clas C Premium Plus Cement

Spur Energy Partners LLC – Valhalla 9-8 State #60H

4. Pressure Control Equipment

Spur Energy Partners LLC variance for flex hose

1. Spur requests a variance to use a flex line from the BOP to the choke manifold. Documentation will be attached in the APD and be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no bends).

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12.25" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 3000 psi
			Pipe Ram	✓	
			Double Ram		
			Other*		
8.75" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 3000 psi
			Pipe Ram	✓	
			Double Ram		
			Other*		

Spur Energy Partners LLC will be utilizing a 5M BOP

Condition	Specify what type and where?
BH Pressure at deepest TVD	3078 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	134°F

*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.

	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.
	Y Are anchors required by manufacturer?
	A conventional wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. 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. See attached schematics.

5. BOP Break Testing Request

Spur Energy Partners LLC requests permission to adjust the BOP break testing requirements as follows:

BOP break test under the following conditions:

- After a full BOP test is conducted
- When skidding to drill the production section, where the surface casing point is shallower than the 3 Bone Spring or 10,000 TVD.
- When skidding to drill a production section that does not penetrate the 3rd Bone Spring or deeper.

If the kill line is broken prior to skid, four tests will be performed.

1) The void between the wellhead and the spool (this consists of two tests)
2) The spool between the kill lines and the choke manifold (this consists of two tests)

If the kill line is not broken prior to skid, two tests will be performed.

1) The void between the wellhead and the pipe rams

6. Mud Program

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CACL2. Spur will use a closed mud system.

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	1525	Water-Based Mud	8.6-8.9	32-36	N/C
1525	3275	Brine	10.0-10.5	32-36	N/C
3275	14556	Brine	10.0-10.5	38-50	N/C

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

7. Logging and Testing Procedures

Logging, Coring and Testing.	
Yes	Will run GR 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.
No	Drill stem test? If yes, explain
No	Coring? If yes, explain

Additional logs planned		Interval
No	Resistivity	
No	Density	
No	CBL	
Yes	Mud log	ICP - TD
No	PEX	

8. Drilling Conditions

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.

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

Total estimated cuttings volume: 1345 bbls**.**

Spur Energy Partners LLC – Valhalla 9-8 State #60H

9. Other facets of operation

	Yes/No
Will more than one drilling rig be used for drilling operations? If yes, describe. Spur Energy Partners LLC. requests the option to contract a Surface Rig to drill, set surface casing, and cement for this well. If the timing between rigs is such that Spur Energy Partners LLC. would not be able to preset surface, the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the attached document for information on the spudder rig.	Yes

Attachments
_x__ Directional Plan
_x__ H2S Contingency Plan
_x__ Akita 57 Attachments
_x__ BOP Schematics
_x__ Transcend Spudder Rig Attachments

10. Company Personnel

Name	Title	Office Phone	Mobile Phone
Christopher Hollis	Drilling Manager	832-930-8629	713-380-7754
Johnny Nabors	Senior Vice President Operations	832-930-8502	281-904-8811