Enterprise Products Partners L.P.

DARK HORSE GAS TREATMENT PLAN

H2S CONTINGENCY PLAN

JULY 2025

REV. 1

Dark Horse Gas Treatment Plant

Immediate Action Plan

GENERAL OVERVIEW

It is the responsibility of all on-site personnel to follow the safety and emergency procedures outlined below. In every response, communication is the fundamental key to safely resolving every event.
Plant personnel are trained and directed to fight fires only in the incipient stage.
The prevailing winds at the plant are out of the south – southwest. Make it a habit to always glance at your windsocks and know the current wind direction.
The possible events which could occur are not intended to be all inclusive, each individual event must be evaluated and responded to accordingly. All actions taken by plant personnel shall first be directed towards protecting operations personnel, contractors working in or around the plant and the public. The secondary concern is to minimize the damage to the facility. No individual shall place the protection of the plant above his or her own personal safety.

PLAN ACTIVATION

Level 3 Activation. The Emergency Immediate Action Plan is activated when an incident or series of incidents have occurred which creates a release of Hydrogen Sulfide (H_2S) Gas or [Sulfur Dioxide (SO_2) if the H_2S has ignited] in concentrations significant enough to pose a threat to the public.

EVENTS THAT COULD LEAD TO A RELEASE OF HYDROGEN SULFIDE

- A catastrophic release, fire or explosion has occurred.
- A continuous release of 100 ppm or greater has occurred for 24 hours; corrective actions at Level 2 have been unsuccessful.
- As per NMAC 19.15.11.9 C. Enterprise shall activate the Hydrogen Sulfide Contingency Plan when a release creates a hydrogen sulfide concentration greater than the Level 3 activation level set forth in the plan. At a minimum, Enterprise shall activate the plan whenever a release MAY create a hydrogen sulfide concentration of more than 100 ppm in a public area, 500 ppm at a public road or 100 ppm 3000 feet from the site of release.

The root cause of these events could be caused by one or more of the following. No Contingency Plan can predict all release situations or scenarios.

Inlet, outlet, or plant piping failure. Ranging from a small pinhole leak to a guillotine type failure.	Flange/gasket failure or leak at the plant or at the AGI wells and/or on their associated piping.
Failure of the flare to ignite during a Plant ESD	Flange/gasket failure or leak on the acid gas compressors.
Valve packing leak or failure.	Unintended damage to the Plant or AGI wells.
Construction activities.	AGI blowout

EMERGENCY ACTIONS.

Note: Depending on the time of the incident, a scenario may exist when there are not adequate Enterprise personnel available to facilitate all the actions which may be warranted. The Operations Superintendent (or his designee) will assume the title of Enterprise Incident Commander (IC) and retain the role until relieved. All essential personnel involved must be made aware of any changes to the IC.

The Incident Commander (IC) and/or his designee will initiate and maintain a Chronological Record of Events.

NMOCD will be notified as soon as possible, but no more than four hours after the Immediate Action Plan has been activated.

Media Relations Guidelines. All personnel are to follow guidelines set forth in the Enterprise Products Emergency Response Plan.

The IC will initiate the following. Actions taken do not necessarily follow the order presented below.

1. If the Plant ESD has not already been activated, activate ESD.
2. Notify 911 and initiate communications with public first responders. The IC will be responsible for assuring the coordination of Enterprise employees and public emergency responders.
3. Identify the emergency if possible and it is safe to do so. If the incident has resulted in a fire, it should be allowed to burn until consultation with Enterprise Management and First Responders has occurred.
4. Notify the Gas Control
   - All available information concerning the release.
   - If needed ask for additional assistance for notification to affected public (residents, businesses, operators).
   - If needed ask for additional assistance for notification to producers, emergency responders and NMOCD.
5. Dispatch necessary personnel, equipment, tools, and instruments as warranted by the emergency.
   - IC will designate personnel to assist with road blocks at predetermined areas on State Road 128. Dependent on conditions at the time, IC may designate additional areas to be blocked off. Personnel will take appropriate emergency response equipment including 4-way monitors.

6. Notify Enterprise Management according to the directives set forth in the Enterprise Emergency Response Plan.
7. All personnel shall be evacuated to and accounted for at the Plant Muster Area(s). The location of the muster areas will be dependent on the area of the incident, its scope and wind direction.
8. Ascertain the safety of all personnel in the plant facility. Evacuate anyone who might have been impacted by the incident. Assure only authorized personnel remain in the area.
9. If safe to do so, minimize the volume of H_2S being released by manual valve isolation and/or verification of automated valve closure.
10. Internal Communications
    • All non-emergency telephone and radio traffic will cease immediately. This communications restriction will continue until the emergency has ended.
    • IC or his designee will be responsible for setting up communications outside the emergency perimeter. The communications network should include all emergency service vehicles.
    • Mobile units must maintain a position as close to the emergency site as possible, but at a safe distance.
11. Return to Normal Operations
    - IC will make the determination to allow personnel to return to normal operations based on careful analysis of the conditions at the plant. This will include monitoring of the fixed H2S monitors and utilization of the 4-way gas monitors to sweep the facility and ensure it is safe to return.
    - IC will communicate with all public first responders and the Gas Control.
    - IC and/or the Operations Control Center will notify the affected public that the incident is over.
    - IC and essential personnel will prepare the Record of Events.
    - IC will electronically notify the NMOCD with the Notice Of Release. (Appendix G)

TABLE OF CONTENTS. DARK HORSE H2S CONTINGENCY PLAN

SECTION 1. INTRODUCTION AND DISCRIPTION OF FACILITY OPERATIONS

1.1 INTRODUCTION

Enterprise Products Partners L.P., LLC (Company) has prepared this Hydrogen Sulfide Contingency Plan as required by the New Mexico Oil Conservation Division (NMOCD) and is in accordance with New Mexico Administrative Code 19.15.11 for Hydrogen Sulfide Gas (H_2S) and conforms to the standard set forth in API RP-55 "Recommended Practice for Oil and Gas Producing and Gas Processing Plant Operations Involving Hydrogen Sulfide.

The written procedures established by this Plan are intended to minimize any hazard that might result from an emergency due to an accidental release of Hydrogen Sulfide Gas (H_2S). No contingency plan can predict all situations. It is the intent of this document to allow careful thought concerning any potential emergency. Its main purpose is to alert and protect the public.

This Plan is specific to the Dark Horse Gas Treatment Plant and Acid Gas Injection Wells AGI#1 & AGI#2, which are located within the facility boundary.

Also included for reference is the West Jal B Deep SWD#1 which is operated by BC & D Operating.

1.2 DARK HORSE GAS TREATMENT PLANT.

The Dark Horse Gas Treatment Plant is a fully manned natural gas processing plant located in Lea County New Mexico. Unless it is down for maintenance or other issues, it operates 24 hours a day, 7 days a week. The plant gathers raw natural gas from Lea County, New Mexico and Winkler County, Texas. Raw natural gas from this gathering system contains Hydrogen Sulfide (H_2S), it is toxic to humans and animals, it is corrosive and flammable and must be treated to remove this gas and other impurities from the gas stream. Treatment of this "sour gas" generates extremely high concentrations of (H_2S) and Carbon Dioxide (CO_2). When combusted, H_2S creates Sulfur Dioxide (SO_2) which is also toxic to humans and animals.

Refer to Figures 4,5, and 6 for the "as drilled" and surface schematics of AGI #1 and AGI #2. Both injection wells meet all surface and subsurface requirements of the New Mexico Oil Control System. When an Emergency Shut Down (ESD) is activated, both wells will be isolated at the surface. In addition, approximately 250 feet below the surface on the production tubing, a Sub Surface Safety Valve (SSSV) is attached; this SSSV is used as a redundant safety feature to shut-in each well in the event the automated well head valves do not close properly (see Figure 6).

Operating areas contain numerous automated H_2S monitoring equipment which alarm both audibly and visually when hydrogen sulfide air concentrations reach 10ppm or greater. The pipe between the compressors and the AGI wells have H2S sensors located at critical points along the pipe. The pipe pressure is continuously monitored. If there are any abnormal variations in pressure, the injection process can be halted.

Wind indicators (or windsocks) are also present throughout the plant. Windsocks are visible from all principal working areas within the facility. In addition, pipeline markers and signs which contain the words "Caution Poison Gas" and/or "High-Pressure Gas" are installed prominently throughout the plant, plant perimeter, and all entrance points. Signage conforms to ANSI Standard Z535.1-2002.

Storage tanks or vessels which might contain H2S vapors at or above the 300 ppm level are equipped with either chains or appropriate signage to restrict entry pursuant to NMAC 19.15.11.12E.

Emergency response phone numbers are posted at the entrance to the Plant. All visitors are required to sign in and sign out.

RADIUS OF EXPOSURE – SEE: 14.0 LOCATIONS OF PUBLIC WITHIN THE RADIUS OF EXPOSURE (ROE)

1. There are several residences located within the 100 ppm Radius of Exposure (ROE).
2. There is one public road located within the 100 ppm ROE.
3. There are several businesses located within the 100 ppm ROE.
4. There are numerous producing wells located within the 100 ppm ROE.

Signs warning of the potential presence of H2S are installed where the 100 ppm ROE of the plant intersects State Road 128. (Figure 3). Figure 7 shows a sample warning sign.

1.3 WEST JAL B DEEP SALT WATER DISPOSAL #1. BC&D OPERATING.

Due to the proximity of the West Jal B Deep SWD #1, New Mexico Oil Conservation Division (NMOCD) proposed surface monitoring for CO_2 around this location. The complete Enterprise CO_2 Monitoring Program can be found in Appendix B.

1) Measurements will be taken quarterly.
2) Reports shall be submitted annually to the NMOCD.
3) Enterprise will notify NMOCD of any anomalies which would indicate any significant increase in CO_2 soil flux readings.
4) CO_2 Soil Flux Measurements will be taken using a calibrated LI-COR LI-8100A (or equivalent) device.
5) Enterprise Products is not responsible for BC&D's Safety Program. However, a Safety Plan will be required from BC&D. In accordance with Enterprise's CO_2 Monitoring Program, portable H_2S monitors will be deployed during each CO_2 soil flux sampling event.
6) Contact Information:
   BC&D Operating, Inc
   2702 North Grimes ST B
   Hobbs, NM 88240
   575.390.7626

SECTION 2. SCOPE.

Contained in this Plan are procedures to provide an organized response to any unplanned release of H_2S from the plant, the acid gas well sites and connecting pipe. Additionally, a plan of action is referenced for the West Jal B Deep SWD #1 in the event CO_2 is detected from the soil flux measurements. The emergency procedures outline actions Enterprise personnel would follow to alert operations personnel, contractors working in or around the plant, and the general public. All operations shall be performed with safety as the primary goal. Any event(s) deemed unsafe to operations personnel will cease until re-evaluation can occur and necessary engineering control can be implemented if warranted. Personnel are not to place the protection of plant property above his or her own personal safety. This plan also outlines actions plant personnel will follow to alert and protect the residents, commercial entities and general public who reside or who might travel in the 100 ppm or 500 ppm ROE of the facilities. The plan also provides procedures to communicate and coordinate appropriate responses with local emergency responders.

SECTION 3. PLAN AVAILABILITY

This Plan shall be retained on site at the Dark Horse Gas Treatment Plant. A copy will be maintained in the Operations Superintendent's Office and in the Plant Control Room. It will be maintained on file at all times and available for NMOCD inspection. Appendix E, the H_2S Plan Distribution List, identifies all additional entities that will be provided a copy of the H_2S Contingency Plan or pertinent parts of the Plan.

SECTION 4. FACILITY OVERVIEW

4.1 EMERGENCY SHUT-DOWN SYSTEM (ESD)

The Dark Horse Treatment Facility is equipped with an emergency shutdown system (ESD) at the Plant and AGI wells. The ESD system is a fail-safe hardwired system activated by push-button; there are several ESD stations strategically placed throughout the plant. In addition to remote activation by operators, these valves are programmed to automatically close when pre-programmed H_2S Levels are met. The ESD System is designed to prevent a Level 3 activation.

1. Operators in consultation with the Plant Operations Superintendent (or his designee), who is also the Incident Commander (IC), will determine if an H_2S release situation warrants ESD of the Plant.
   NOTE: A Plant ESD can be activated at any time in the Control Room or by plant operations personnel without consultation, if they deem activation is necessary!
2. When activated, the ESD System is designed to simultaneously perform the following actions:
   - **2.1.** Close all automated hydrocarbon inlet and outlet valves to and from the Plant.
   - **2.2.** Close all automated valves at the two AGI wells.
   - **2.3.** Initiate a distinct alarm and/or light which is separate from the general plant alarm.
   - **2.4.** Shut off fuel for all individual fuel uses such as burners, heaters, combustors.
   - **2.5.** Isolate Natural Gas Liquid (NGL) storage tanks and product pumps.
   - **2.6.** Shut down all electric motors (with exceptions such as lube oil pumps, flare blowers, instrument air compressors, etc.)
   - **2.7.** Shut down rotating equipment (engine-driven equipment, compressors, pumps, etc.)
   - **2.8.** Divert the acid gas stream to the emergency acid gas flare.

4.2 AUTOMATED VALVES

AGI compressors will automatically shut down if two or more of the H_2S sensors located in the AGI well area go into high alarm (40 ppm); plant ESD occurs. When AGI compressors are shut-down, isolation valves upstream and downstream of the units will close as well as those located on the AGI wellheads.
Automated block valves on incoming lines can be remotely closed where they enter the Plant perimeter

4.3 MANUALLY OPERATED ISOLATION VALVES

Additional isolating block valves inside the Plant perimeter on the inlet gathering lines can be closed to prevent gas flow into the Plant; this includes both high- and low-pressure pipelines. In addition, there are secondary block valves on the sales line which can manually be closed.

4.4 ALARMS AND BEACONS

Colored beacons, horns, and ESD stations are situated in various locations throughout the Plant. Whenever H_2S is detected at 25 ppm, an alarm will sound in the control room to alert Company personnel of a potential leak or problem, and audible alarms and yellow beacons will begin flashing throughout the facility. Whenever H2S is detected at 40 ppm, the ESD will activate, and the facility will shut down.

4.5 EMERGENCY EQUIPMENT

4.5.1. Emergency Response Equipment
At the direction of the IC, operations personnel will be directed to block roads of concern as deemed necessary by the IC. State Police and/or the Lea County Sheriff's Department will be notified to block traffic at predetermined areas as noted on Figure 3. The equipment needed to assist in the road blocks are to be located in the Plant Control Room Offices.

4.5.2. First Aid Equipment
First aid equipment is located in the Plant Control Room Offices.

4.6 EMERGENCY ASSEMBLY (MUSTER) AREAS

Evacuation for all visitors and personnel begins when a Level 3 activation is initiated. Prevailing winds typically blow out of the south-southwest. Personnel should evacuate to the Primary muster area unless a route is downwind of the release (observation of the windsocks is essential).

4.6.1. Figure 2 shows the primary muster area and the 3 secondary muster areas.

4.7 H2S GAS DETECTION-FIXED MONITORS

The Dark Horse Processing Plant has numerous ambient fixed point hydrogen sulfide monitors placed strategically throughout the Plant to detect possible leaks. The sensors are connected to the Control Room alarm panel's Programmable Logic Controllers (PLC). Upon local detection of H_2S at 10 ppm at any detector, visible beacons are activated, and an alarm is sounded.
The AGI system monitors can also be viewed on the PLC displays located at the Plant Control Room. Immediate action is required for any alarm occurrence or malfunction. All H_2S sensors are calibrated quarterly.

4.8 PERSONAL H2S MONITORS

Operations personnel carry a personal H_2S detection unit at all times. These units alert personnel at a level of 10 ppm of H_2S gas. The mechanical maintenance crew carries in their vehicle one Self-Contained Breathing Apparatus (SCBA) rescue pack, a 4-gas sensing unit which monitors for carbon monoxide, hydrogen sulfide, oxygen, and combustible gases. There are also 4-gas sensing

units located at the main Control Room Offices and are available to plant personnel. They are to be used to check specific areas and equipment prior to initiating maintenance or other work. They will also be utilized by plant personnel during an emergency response event to monitor H_2S levels in the ROE. All H_2S sensors are maintained in a "ready to use" state and have calibration checks performed on a monthly basis.

4.9 H2S ANALYSIS

The plant analyzes the inlet gas stream and sweet gas stream for concentrations of H_2S via H_2S Analyzers with sample points located on the north/south-oriented pipe rack. The acid gas stream H_2S concentrations will be sampled near the AGI pumps located on the west side of the facility.

4.10 SELF CONTAINED BREATHING RESPIRATORS (SCBA)

The plant is equipped with 30-minute SCBA respirators to use during specific maintenance activities as directed by the Operation Superintendent (or his designee), or as needed in the event of an evacuation. Maintenance, I & E and plant operators are trained and fit tested annually to use the SCBA respirators.

4.11 PROCESS PURGE SYSTEM

All vessels, pumps, compression equipment, and piping in the acid gas injection process are designed and equipped to allow purging with pipeline quality gas to remove the acid gas prior to conducting maintenance or inspection work. The purge gas stream with residual acid gas is routed safely into the acid gas flares located at the plant. All flares are equipped with autoignition fuel assist devices in compliance with NMAC 19.15.11.11(D). Operating procedures include the purging of all equipment to avoid acid gas exposure to personnel and to prevent acid gas from escaping to the environment.

4.12 FIRE FIGHTING EQUIPMENT

Plant personnel are trained only for incipient stage firefighting. The fire extinguishers located throughout the plant and in company vehicles are typically a 30# dry chemical fire extinguisher. The Plant is also equipped with portable fire extinguishers that may be used in an emergency. The extinguishers are located throughout the Plant in key locations.

SECTION 5. CHARACTERISTICS OF HYDROGEN SULFER, SULFUR DIOXIDE, CARBON DIOXIDE

5.1. HYDROGEN SULPHIDE (H_2S)

Hydrogen sulfide gas is a colorless, flammable, extremely hazardous gas with a "rotten egg" smell at low concentrations. However, with continuous low-level exposure, or at high concentrations, a person loses his/her ability to smell the gas even though it is still present (olfactory fatigue). This can happen very rapidly and at high concentrations, the ability to smell the gas can be lost instantaneously. Therefore, DO NOT rely on your sense of smell to indicate the continuing presence of hydrogen sulfide or to warn of hazardous concentrations.

- H_2S is heavier than air and may travel along the ground and collect in low-lying areas. However, it can be picked up by a breeze and carried downwind.
- H_2S is a highly flammable gas and gas/air mixtures can be explosive. It may travel to sources of ignition and flash back. If ignited, the gas burns to produce toxic vapors and gases, such as sulfur dioxide.
- H_2S is both an irritant and a chemical asphyxiant. Its health effects can vary depending on the level and duration of exposure. Repeated exposure can result in health effects occurring at levels that were previously tolerated without any effect. Low concentrations irritate the eyes, nose, throat, and respiratory system (e.g., burning/ tearing of eyes, cough, shortness of breath). Asthmatics may experience breathing difficulties.
- Repeated or prolonged exposures may cause eye inflammation, headache, fatigue, irritability, insomnia, digestive disturbances, and weight loss. Moderate concentrations can cause more severe eye and respiratory irritation (including coughing, difficulty breathing, accumulation of fluid in the lungs), headache, dizziness, nausea, vomiting, staggering and excitability.
- High concentrations can cause shock, convulsions, inability to breathe, extremely rapid unconsciousness, coma, and death. Effects can occur within a few breaths, and possibly a single breath.
- Entering dangerous H_2S atmospheres at or above 100 ppm is Immediately Dangerous to Life and Health (IDLH).
- NEVER attempt a rescue in an area that may contain hydrogen sulfide without using appropriate respiratory protection and without being trained to perform such a rescue.

5.2. SULPHER DIOXIDE (SO_2)

Sulfur Dioxide is produced as a by-product of H_2S combustion. It is colorless, transparent, and non-flammable, with a pungent odor associated with burning sulfur.

- SO_2 is heavier than air and may travel along the ground and collect in low-lying areas. However, it can be picked up by a breeze and carried downwind when temperatures are elevated.
- SO_2 can be extremely irritating to the eyes and mucous membranes of the upper respiratory tract. It is also recognized for contributing to cardiovascular and neurological health issues. Particularly vulnerable are asthmatics, children, and the elderly.
- Prolonged exposure to SO_2 can have serious long-term health consequences affecting both the respiratory and cardiovascular systems.
- High concentrations 150 ppm and higher can cause extreme irritation. 500ppm can cause suffocation. 1000 ppm death may result.
- Entering a dangerous SO_2 atmosphere at or above 100 ppm is Immediately Dangerous to Life and Health (IDHL)

- NEVER attempt a rescue in an area that may contain sulfur dioxide without using appropriate respiratory protection and without being trained to perform such a rescue.

5.3. CARBON DIOXIDE (CO_2)

Carbon Dioxide gas is colorless, odorless (mostly) and non-flammable.

- CO_2 is heavier than air and may travel along the ground and collect in low-lying areas. However, it can be picked up by a breeze and carried downwind.
- In higher concentrations is an asphyxiant.
- Possible physical affects at different concentrations
  - 1% Breathing rate increases slightly.
  - 2% Breathing rate increases to 50% above normal. Prolonged exposure can cause tiredness and headaches.
  - 5-10% A sharp odor could be noticeable. Very labored breathing, headache, and visual impairment. Judgement may be impaired followed within minutes by loss of consciousness.
  - 10% and greater. Unconsciousness occurs rapidly. Prolonged exposure to high concentrations may eventually result in death from asphyxiation.
- NEVER attempt a rescue in an area that may contain carbon dioxide without using appropriate respiratory protection and without being trained to perform such a rescue.

SECTION 6. RADIUS OF EXPOSURE

6.1 SEE APENDIX D FOR THE ACTUAL RADIUS OF EXPOSURE

According to 19 NMAC 15.11.7(K), ROE calculations are based on a complete and total failure of a particular operating facility in cubic feet per day; therefore, it is impossible for the 24-hour throughput volume to be released instantly at the plant or corresponding injection pipelines. Likewise, the control equipment installed in/at the two AGI wells would prevent a blow back of acid gas which would be greater than the 24-hour inlet rate. However, in order to comply with the Rule, the 24-hour processing volume is used for the calculation.

1. 200 MMSCFD = 24-hour flow rate.
2. 2.5 = Molecular Percent of Hydrogen Sulfide Gas in the inlet gas stream.

6.2 RADIUS OF EXPOSURE CALCULATIONS. 19 NMAC15.11.7K (1)(2)

1. 100-ppm radius of exposure: For determining the 100-ppm radius of exposure: X = [(1.589)(hydrogen sulfide concentration)(Q)]$^{(0.6258)}$, where "X" is the radius of exposure in feet, the "hydrogen sulfide concentration" is the decimal equivalent of the mole or volume fraction of hydrogen sulfide in the gaseous mixture and "Q" is the escape rate expressed in cubic feet per day (corrected for standard conditions of 14.73 psi absolute and 60 degrees Fahrenheit).
2. 500-ppm radius of exposure: For determining the 500-ppm radius of exposure: X = [(0.4546)(hydrogen sulfide concentration)(Q)]$^{(0.6258)}$, where "X" is the radius of exposure in feet, the "hydrogen sulfide concentration" is the decimal equivalent of the mole or volume fraction of hydrogen sulfide in the gaseous mixture and "Q" is the escape rate expressed in cubic feet per day (corrected for standard conditions of 14.73 psi absolute and 60 degrees Fahrenheit)
3. See Appendix D for ROE Calculations.
4. Enterprise shall recalculate the ROE if the actual volume fraction of hydrogen sulfide increases by a factor of 25 percent or greater. Enterprise shall provide the results to NMOCD within 60 days.

6.3 RADIUS OF EXPOSURE FOR DARK HORSE GAS TREATMENT PLAN. WORST CASE SCENARIO.

1. Dark Horse 100-ppm Radius of Exposure **= 20,801 feet (3.94 miles)**
2. Dark Horse 500-ppm Radius of Exposure **= 9,505 feet (1.80 miles)**

The ROE for the Plant and AGI wells are shown on Figure 3. This ROE pattern is designed to include the 100 ppm and 500 ppm radius for a potential worst-case failure at any point in the system.

SECTION 7. FACILITY MAPS / FIGURES AND APPENDICES

7.1 LIST OF MAPS/FIGURES

Figure 1 shows the location of the Dark Horse Gas Treatment Plant and driving directions to the Plant in the event of an emergency.

Figure 2 shows the Plant and the 4 Muster Areas.

Figure 3 shows the Evacuation Routes, Radius of Exposure and predetermined locations for roadblocks on State Road 128.

Figure 4 shows the Independence AGI #1 well schematic.

Figure 5 shows the Independence AGI #2 well schematic.

Figure 6 shows the Independence AGI 1 & 2 Safety schematics.

Figure 7 shows an example of a H2S warning sign

7.2 APPENDICES

Appendix A: Emergency Action Plan. For Affected Public and Emergency Responders

Appendix B: Enterprise CO2 Monitoring Program: West Jal B Deep SWD #1

Appendix C: Telephone Numbers/Emergency Call List: Residents, Business, Producers, Public Responders, Enterprise.

Appendix D: Radius of Exposure Calculations

Appendix E: Proposed Distribution List

Appendix F: Record of Events Log

Appendix G: General Notice of Release Procedures. At present, only on-line submissions are accepted.

Appendix H: Open

SECTION 8. FACILITY LOCATION, MAILING ADDRESS, CORPORATE ADDRESS

8.1 LOCATION OF DARK HORSE TREATMENT PLANT

The Dark Horse Gas Treatment Plant and AGI wells (Independence AGI #1 & Independence AGI #2) have been constructed in Section 20, Township 25 South, Range 36 East in Lea County, New Mexico on land owned by Enterprise Products. The main entrance to the plant: Latitude: 32.1194 Longitude: -103.2874

8.2 LOCATION OF ACID GAS INJECTION WELLS

The Independence AGI #1 & #2 wells are located near the northwest corner of the plant facility (Figures 1 & 2).

- **AGI #1 Well Surface Location:** 829' FNL & 1,443' FWLL C, Section 20, Township 25S, Range 36E Latitude: 32.120855 Longitude: -103.291021. Independence AGI #1 API: 30-025-48081
- **AGI #2 Well Surface Location:**110' FNL & 1,443' FWLUL C, Section 20, Township 25S, Range 36E Latitude: 32.120062 Longitude: -103.291025. Independence AGI #2 API: 30-025-49974

8.3 DRIVING DIRECTIONS FROM JAL NM TO THE DARK HORSE PLANT

From Jal, NM (intersection of 3rd Street and Highway NM-128), drive west on Highway NM-128 and continue for approximately 5.4 miles to100 yards west of MM47, GPS Coordinates 32.13751, -103.27953. Turn left (south) on a private lease road and continue for approximately 1.0 mile. Turn right (west) onto another private lease road, GPS Coordinates 32.12301 -103.27964. Tavel on this lease road west and then south for approximately .67 miles to the primary entrance of the Dark Horse Gas Treating Facility; GPS Coordinates 32.1194 -103.2874. See Figure 1

8.4 DARK HORSE MAILING ADDRESS

Enterprise Products Partners, LP
Dark Horse Gas Treatment Plant
465 W. NM Highway 128
Jal, NM 88252

8.5 ADDRESS: ENTERPRISE CORPORATE OFFICES

Enterprise Products Operating, LLC
1100 Louisiana
Houston, TX 77002

SECTION 9. TRAINING AND DRILLS

The Operations Superintendent will be responsible for providing training and drills for plant personnel. Included in the training will be the responsibilities and duties of essential personnel. Periodic on-site or classroom drills or exercises that simulate a release will also be performed. Enterprise Products will coordinate with the New Mexico State Police the emergency actions to be taken by Enterprise personnel and NM State Police officials in the event of a Level 3 Activation. All training shall be documented.

Training will include:

- A review of the H2S Contingency Plan
- A review of the Immediate Action Plan to include roles and responsibilities of essential personnel during an emergency.
- A review of telephone numbers of emergency responders (in addition to 911 if direct numbers are available), public agencies, and other appropriate public authorities. Locations of these numbers in the contingency plan or where they are posted in the Control Room Offices will be reviewed.
- Characteristics of H_2S and SO_2
- Review the locations of the 100 ppm ROE's and measures to be taken to protect the affected public. This would include the locations of probable roadblocks, communications to affected public for shelter in place or evacuation.
- Review procedures for notifying the affected public and public responders
- Review plant evacuation routes, muster areas.
- Review the location of necessary safety equipment and supplies.

9.1 TRAINING OF ESSENTIAL PERSONNEL

Training for Dark Horse Gas Treating Plant personnel shall include plant operators, mechanics, instrument and electrical technicians, and maintenance support personnel. Plant Operators will be responsible for initiating and implementing the H_2S Contingency Plan. In addition, all plant personnel will receive:

- Plant Orientation Training. All Plant personnel, visitors, and contractors who will perform duties in the plant processing area, must attend a Plant Overview Orientation, prior to obtaining permission to enter the Plant. Included as part of this orientation is how to respond and evacuate safely in the event of an H_2S alarm or release. This training also complies with the requirements of Enterprise and its Plant Process Safety Management Program and Procedures Manuals.
- Emergency Response Training. All Plant personnel are trained on the Dark Horse Gas Treatment Plant Emergency Response Plan annually.
- H_2S Training. All Plant personnel must be H_2S trained on an annual basis. Individuals must maintain their H_2S training to be qualified to work at the plant.
- Respirator Training. Appropriate plant operations personnel are trained annually on the proper use of respirators. In addition to annual training, these personnel are required to have annual respirator fit testing with appropriate medical clearance for respirator use.
- Hazard Communication. All Plant personnel are trained annually on Hazard Communication. The annual training includes, at a minimum, the use of Safety Data Sheets (SDS) for those materials that are present at the Plant.
- Personal Protective Equipment (PPE). Plant personnel are trained annually on the Enterprise requirements for PPE.

9.2 NOTIFICATION AND TRAINING. RESIDENTS & BUSINESSES LOCATED WITHIN THE ROE

Enterprise will attempt to notify and provide training as appropriate on the proper protective measures to be taken in the event of a release.

- These are to include shelter in place or evacuation.
- Likely evacuation routes
- 100 ppm and 500 ppm ROE's

9.3 NOTIFICATION AND TRAINING. PRODUCERS LOCATED WITHIN THE ROE

Enterprise will attempt to notify and provide training as appropriate, on the proper protective measures to be taken in the event of a release. Information includes:

- A brief overview of Plant and AGI Operations
- Operating safety features of the plant
- Review/update notification procedures
- Review shelter in place or evacuation options
- Review likely roadblock locations
- Review likely evacuation routes
- 100 ppm and 500 ppm ROE's

9.4 NOTIFICATION AND TRAINING. PUBLIC OFFICIALS & EMERGENCY RESPONDERS

The following Emergency Response Agencies will receive copies and/or pertinent parts of the H_2S Contingency Plan to describe how Enterprise will coordinate emergency response actions with NMOCD and the NM State Police.

1. New Mexico Oil Conservation Division
2. New Mexico State Police – Lea County
3. New Mexico Department of Public Safety (State Offices)

4. Lea County Local Emergency Planning Committee.

At the discretion of Enterprise Products and consultation with the NM State Police, other agencies which may receive the same information.

- Lea County 911 Emergency Response
- Lea County Sherriff's Department
- Jal EMS – Fire, Police, Ambulance
- Bureau Of Land Management – Lea County
- Affected Public

Information provided to Emergency Response Agencies will include:

- A brief overview of Plant and AGI Operations
- Operating safety features of the plant
- Review/update notification procedures to Agencies and Affected Public. Discuss the options of shelter in place or evacuation for affected public.
- Review likely (predetermined) roadblock locations
- Review likely evacuation routes
- 100 ppm and 500 ppm ROE's

The Dark Horse Treatment Plant will also conduct periodic tabletop drills with pertinent emergency response agencies.

9.5 TRAINING AND ATTENDANCE DOCUMENTATION

All training and drills shall be documented. Records will be maintained at the Plant and will be available for inspection upon request. Documentation will be recorded on an Enterprise Products Training Form and will contain the following.

- The name of attendees with negligible signature and their positions in the Company.
- Description of the training and or drill which occurred.
- Post training and or drill review.

SECTION 10. COORDINATION WITH STATE EMERGENCY PLANS

The Plant has various notification and reporting obligations. Some are related to its state air quality permit that is overseen by NMED, as well as state and federal release reporting obligations. In addition to the regulatory obligations noted above, Plant personnel also have internal and external notification and reporting obligations associated with the activation of this Plan. Reporting obligations are as follows:

10.1 NEW MEXICO OIL CONSERVATION DIVISION (NMOCD)

As soon as possible, but no later than four hours after a Level 3 plan activation, (recognizing that a prompt response should supersede notification), NMOCD will be notified by the IC or the IC's designee. Enterprise shall electronically submit a report of the incident to the NMOCD. General procedures for the electronic submission of the Notice of Release are found in Appendix G.

10.2 NEW MEXICO STATE POLICE: HAZARDOUS MATERIALS EMERGENCY RESPONSE PLAN

The New Mexico State Police (911) will immediately be notified when a Level 3 plan has been activated; they have authority to take control of the scene management and coordination of all resources.

SECTION 11. RESPONSE PLAN ACTIVATION LEVELS

EVENTS THAT COULD LEAD TO A RELEASE OF H_2S.

No Contingency Plan can predict all release situations or scenarios.

Inlet, outlet or Plant piping failure. Ranging from a small pinhole leak to a guillotine type failure.	Flange/gasket failure or leak at the Plant or at the AGI wells and/or their associated piping.
Failure of the flare to ignite during a Plant ESD	Flange/gasket failure or leak on the acid gas compressors.
Valve packing leak or failure. Entire facility.	Unintended damage to the Plant or AGI wells.
Construction activities.	

NOTE:
Dark Horse Gas Treatment Plant Operators are authorized to elevate the level of response, based on observed conditions, if they feel a lower-level response may not be effective in protecting personnel, the public, or the environment.
A Plant Emergency Shut Down (ESD) can be activated at any time in the control room or by plant operations personnel if they deem activation is necessary!

Level 1 Activation

Activating Condition:

- H_2S of 10 ppm or greater detected at any fixed monitor.

Alarms and Automated Activations:

- Localized flashing yellow lights or beacons and an intermittent horn are activated if any fixed monitor senses H_2S at 10 ppm to 99 ppm. The horn and flashing yellow lights are redundant systems which function independently of one another so that should one system fail, the other would remain active. These systems incorporate backup battery capabilities as recommended in API RP 55 which insure their operation in the event of a power failure.
- Personal H_2S monitor activates.

Actions:

- A computer in the Control Room and in the office of the Operation Superintendent establishes the location of the monitor(s), at the Plant or Wellsite, which has activated the alarm and/or flashing yellow beacons.
- Operations personnel will respond accordingly at the initial sound of an audible alarm or the sight of a flashing beacon.
- If the cause of the release is a minor problem such as a packing or seal leak, personnel will attempt to take the necessary steps to correct the situation and eliminate the source of the release.

Level 2 – Facility and Potentially Affected Public:

Activating Condition:

- Corrective actions at Level 1 have been unsuccessful.
- 100 ppm of H_2S or greater is detected for a sustained period at any fixed monitor.
- If any two monitors simultaneously detect 40 ppm or greater.
- Continuous facility-wide siren has been activated, and amber beacons have been activated.

Actions:

- When two monitors simultaneously detect 40 ppm or greater, plant will automatically ESD.
- The Plant Supervisor and the Control Room Operator will be notified.
- Operations personnel will respond accordingly with 4-way monitors and personal H_2S Monitors.
- Assess and communicate the situation.
- Isolate the specific operating or processing area.
- Perform corrective actions until resolved.
- Actions could include donning SCBA's

Level 3 – Facility and Potentially Affected Public:

Activating Conditions

- A catastrophic release, fire or explosion has occurred.
- A continuous release of 100 ppm or greater has occurred for 24 hours. Corrective actions at Level 2 have been unsuccessful.
- As per NMAC 19.15.11.9 C. Enterprise shall activate the Hydrogen Sulfide Contingency Plan when a release creates a H_2S concentration greater than the Level 3 activation level set forth in the plan. At a minimum, Enterprise shall activate the plan whenever a release **MAY** create a hydrogen sulfide concentration of more than 100 ppm in a public area, 500 ppm at a public road or 100 ppm 3000 feet from the site of release.

Actions:

Note: Depending on the time of the incident, a scenario may exist where there are not adequate Enterprise personnel available to facilitate all of the actions which may be warranted.

ESSENTIAL PERSONNEL:

All Dark Horse Operations Personnel are deemed "Essential" when a Phase 3 activation has occurred. The Operations Superintendent (OS) will automatically assume Enterprise's Incident Commander (IC). In the event the OS is not at the facility or in the general area of operations, the role of IC is assigned to his designee on-site. Whomever is the designated IC will remain in the position until relieved. Once the decision has been made to relieve the current IC, all essential personnel must be made aware of the change. Dependent on the varied scenario(s) which could occur during an emergency event, plant personnel will likely be performing their respective roles in an attempt to safely stop the release of H2S and return to normal operations. For those reasons, it is impractical to identify with certainty who might be assigned to assist with the blocking of roads, who might be responsible for taking role at the muster areas, or any other duties deemed significant to the emergency. The IC will make those determinations based on the current emergency conditions and the number of available personnel.
Dark Horse Operations Management utilizes an internal record of all operations personnel and their phone numbers which is updated as personnel changes occur. The IC will have those names and numbers available if an emergency event were to occur.

The IC and/or his designee will initiate and maintain a Chronological Record of Events.
NMOCD will be notified as soon as possible, but no more than four hours after the plan has been activated.
Media Relations Guidelines. All personnel are to follow guidelines set forth in the Enterprise Emergency Response Plan.

- If the Plant ESD has not already been activated, activate
- The Operations Superintendent or his designee will assume Enterprise Incident Commander (IC).
- All personnel shall be evacuated to and accounted for at the Plant Muster Area(s). The actual muster area(s) are dependent on the area of the incident, it's scope and wind direction.
- Call the Operations Control Center.
- Notify 911and begin communications with first responders.
- Notify Enterprise Management according to the directives set forth in the Enterprise Emergency Response Plan
- Mass notification or direct telephone notification to affected public (operators, residences, and businesses). Shelter in place or evacuation.
- IC will designate personnel to assist with road blocks at State Road 128. Dependent on conditions at the time, IC may designate additional areas to be blocked off. Responding personnel will take appropriate emergency response equipment including 4-way monitors.
- If ignition of vapors has resulted in a fire, it should be allowed to burn until consultation with Enterprise Management and Public First Responders has occurred.
- IC will facilitate corrective actions to be taken until the emergency has been safely resolved and H_2S levels in the plant have returned to safe levels. Once that has occurred, the IC will signal an "All Clear" and public emergency response personnel shall be notified.
- Mass notification to affected public that the incident has been resolved.

SECTION 12. SUBMISSION OF THE H_2S CONTINGENCY PLAN

In order to adequately protect public safety, Enterprise Products will resubmit this H_2S Contingency Plan to the NMOCD for review and approval pursuant to NMAC 19.15.11.9F, in which material changes to plant operations warrant amendments to the Plan. The Plan as approved by the NMOCD will be readily accessible for review at the facility upon request. In addition, Enterprise shall maintain a copy of the Plan at their corporate office.

12.1 REVISIONS TO THE PLAN

The H_2S Contingency Plan will be reviewed annually and revised at that time as necessary to address changes to the Plant facilities, operations, or training requirements, contact information, and the public areas including roads, businesses, or residents potentially affected by the operations of the Plant and AGI well, specifically, those areas within the radii-of-exposure.

12.2 ANNUAL INVENTORY OF CONTINGENCY PLANS

Annual inventory of contingency plans. On an annual basis, each person (Enterprise) required to prepare one or more hydrogen sulfide contingency plans pursuant to NMAC 19.15.11 shall file with Lea County Emergency Planning Committee (LEPC) and the State Emergency Response Commission, an inventory of the wells, facilities and operations for which plans are on file with the NMOCD. Included will be the name, address and telephone number of a point of contact.

12.3 PLANS REQUIRED BY OTHER JURISDICTIONS.

Enterprise may submit the hydrogen sulfide contingency plan to the BLM or other jurisdictions required that meets the requirements of NMAC 19.15.11.9 to the NMOCD in satisfaction of NMAC 19.15.11.9

SECTION 13. LOCATION OF PUBLIC WITHIN THE RADIUS OF EXPOSURE

13.1. RESIDENTS

Upon activation of the Plan, the IC, or designee, shall attempt to notify residents located within the 100 ppm ROE of the nature of the release and status of containment. Depending on the nature of the release and the prevailing wind conditions, individuals will be instructed to shelter in place or evacuate. Contact information for individuals of the residences can be found in Appendix C.

13.2. ROADS

There is one public road located within the 100 ppm ROE (State Road 128). Upon activation of the Plan, Enterprise will dispatch personnel with 4-way gas monitors to help establish roadblocks (see Figure 3). Roadblocks will be established at the designated locations in anticipation of variations in wind direction. Signs, warning of the potential presence of H_2S, will be installed where the 100 ppm ROEs of the Plant intersect the above referenced State Road 128. (See Figure 3 for the location of these signs; see Figure 7 for a sample of one of these signs).

13.3. BUSINESSES

Upon activation of the Plan, the IC, or designee, shall attempt to notify businesses located within the 100 ppm ROE of the nature of the release and status of containment. Dependent on the nature of the release and prevailing wind conditions, businesses will be instructed to shelter in place or evacuate. Contact information for the businesses can be found in Appendix C.

13.4. OPERATORS

There are numerous operators of active wells within the 100 ppm ROE. Contact information for the operators is contained in Appendix C. Upon activation of the plan, Enterprise will attempt to notify the operators. Personnel will be instructed to evacuate away and diagonal from the Plant dependent on wind direction.

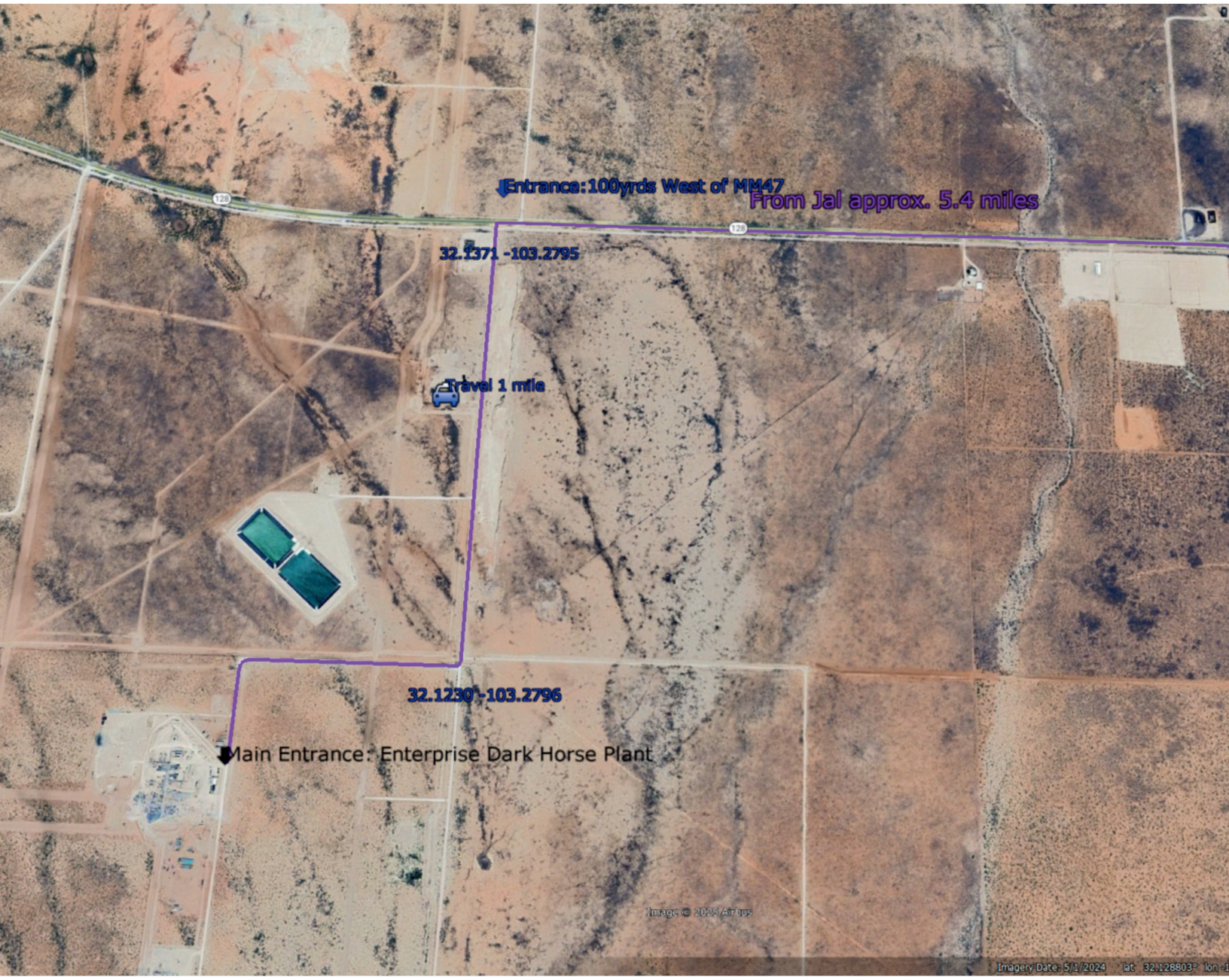
SECTION 14. ESSENTIAL PERSONNEL

- All Dark Horse Operations Personnel are deemed “Essential” when a Phase 3 activation has occurred. The Operations Superintendent (OS) will automatically assume Enterprise’s Incident Commander (IC). In the event the OS is not at the facility or in the general area of operations, the role of IC is assigned to his designee on-site. Whomever is the designated IC will remain in the position until relieved. Once the decision has been made to relieve the current IC, all essential personnel must be made aware of the change.
- Dependent on the varied scenario(s) which could occur during an emergency event, plant personnel will likely be performing their respective roles in an attempt to safely stop the release of H2S and return to normal operations. For those reasons, it is impractical to identify with certainty who might be assigned to assist with the blocking of roads, who might be responsible for taking role at the muster areas, or any other duties deemed significant to the emergency. The IC will make those determinations based on the current emergency conditions and the number of available personnel.
  Dark Horse Operations Management utilizes an internal record of all operations personnel and their phone numbers which is updated as personnel changes occur. The IC will have those names and numbers available if an emergency event were to occur.

SECTION 15. OPEN

Enterprise Products Partners L.P.

EMERGENCY DRIVING DIRECTIONS



Dark Horse Mailing Address
Enterprise Products Partners, LP
Dark Horse Gas Treatment Plant
465 W. NM Highway 128
Jal, NM 88252

Emergency Driving Directions

Figure 1. From Jal, NM (intersection of 3rd Street and Highway NM-128), drive west on Highway NM-128 and continue for approximately 5.4 miles to100 yards west of MM47, GPS Coordinates 32.1371, -103.27953. Turn left (south) on a private lease road and continue for approximately 1.0 mile. Turn right (west) onto another private lease road, GPS Coordinates 32.12301 -103.27964. Tavel on this lease road west and then south for approximately .67 miles to the primary entrance of the Dark Horse Gas Treating Facility; GPS Coordinates 32.1194 -103.2874.

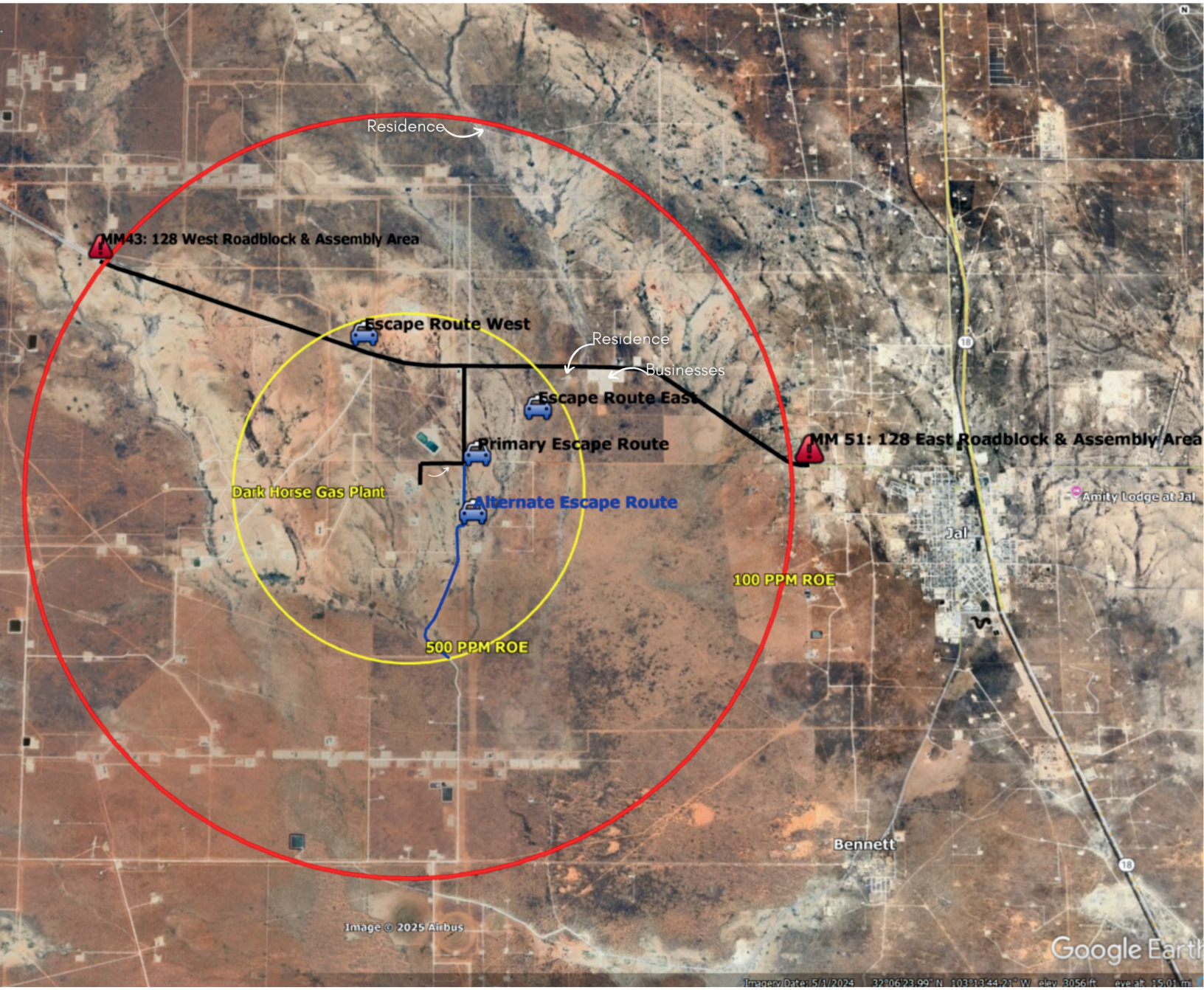
Enterprise Products Partners L.P.

EMERGENCY MUSTER AREAS

Figure 2. Evacuation for all visitors and personnel begins when a Level 3 activation is initiated. Prevailing winds typically blow out of the south-southwest. Personnel should evacuate to the Primary muster area unless a route is downwind of the release (observation of the windsocks is essential).

Enterprise Products Partners L.P.

ROAD BLOCK & ESCAPE ROUTES



Escape Route
Primary Routes (East & West)
Alt. Route (South)
Road Block
ROE – 500 ppm
ROE – 100 ppm

Figure 3. Radius of Exposure (ROE) map. Calculations for ROE made for concentrations of H2S for 100ppm (3.94 mile radius) and 500ppm (1.80 mile radius). Primary emergency assembly areas are located northwest and east of the plant and AGI well.

GPS Coordinates - SR 128
MM51 *(32.1232-103.2221)*
MM43 *(32.1530-103.3444)*
2 Residents (within 100ppm)
1 Business (within 100ppm)

Enterprise Products Partners L.P.

INDEPENDENCE AGI #1
UL C - S20 - T25S - R36E
API: 30-025-48081
Lat: 32.120855, Long: -103.291021

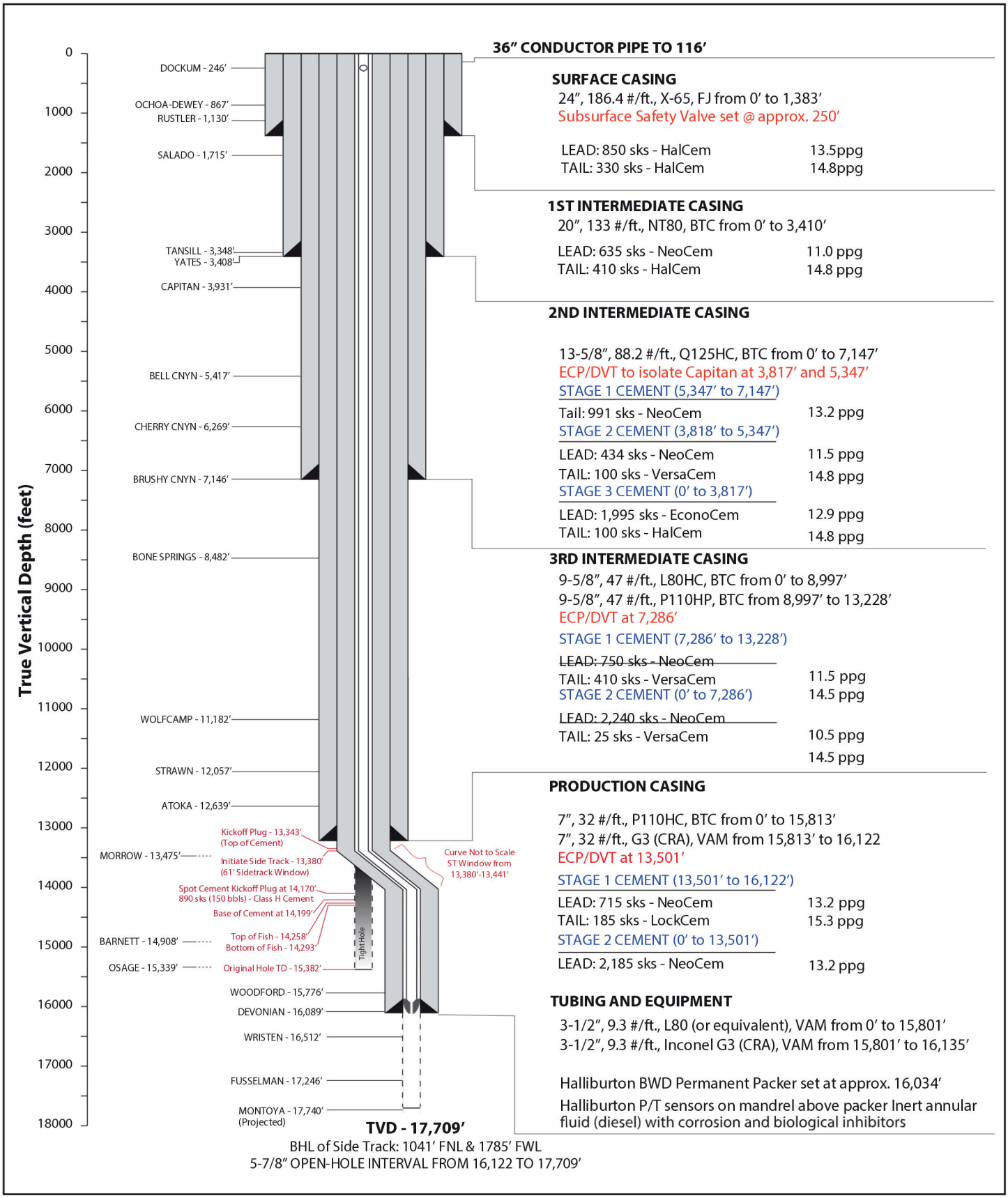


Figure 4. As-drilled well schematic consisting of a surface string of casing, three intermediate strings, and a production string with associating tubing/equipment and cement types. Original hole and sidetrack are shown.

Enterprise Products Partners L.P.

INDEPENDENCE AGI #2
UL C - S20 - T25S - R36E
API: 30-025-49974
Lat: 32.1200628, Long: -103.2910251

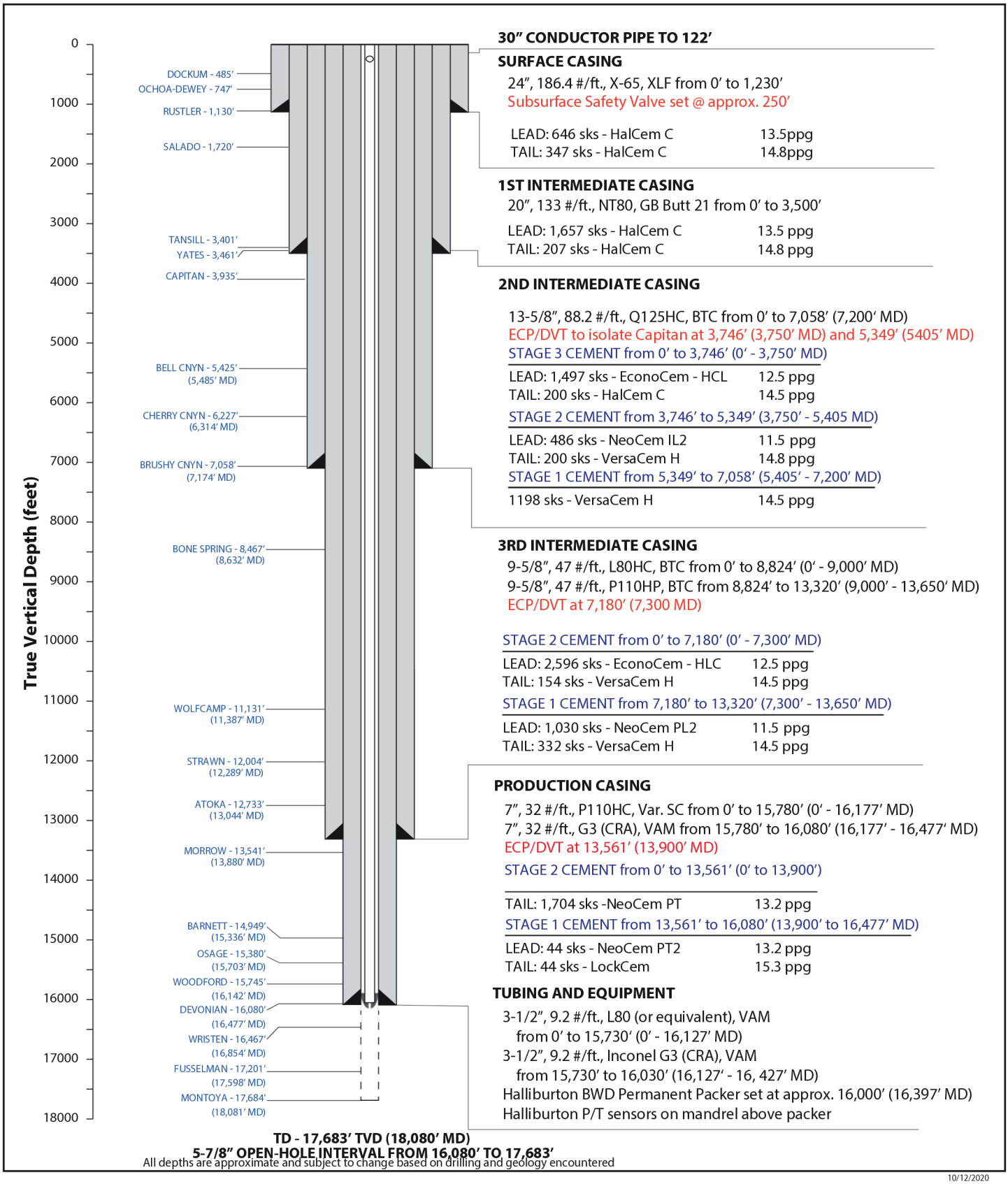


Figure 5. Well design consisting of a surface string of casing, three intermediate strings, and a production string with associating tubing/equipment and cement types

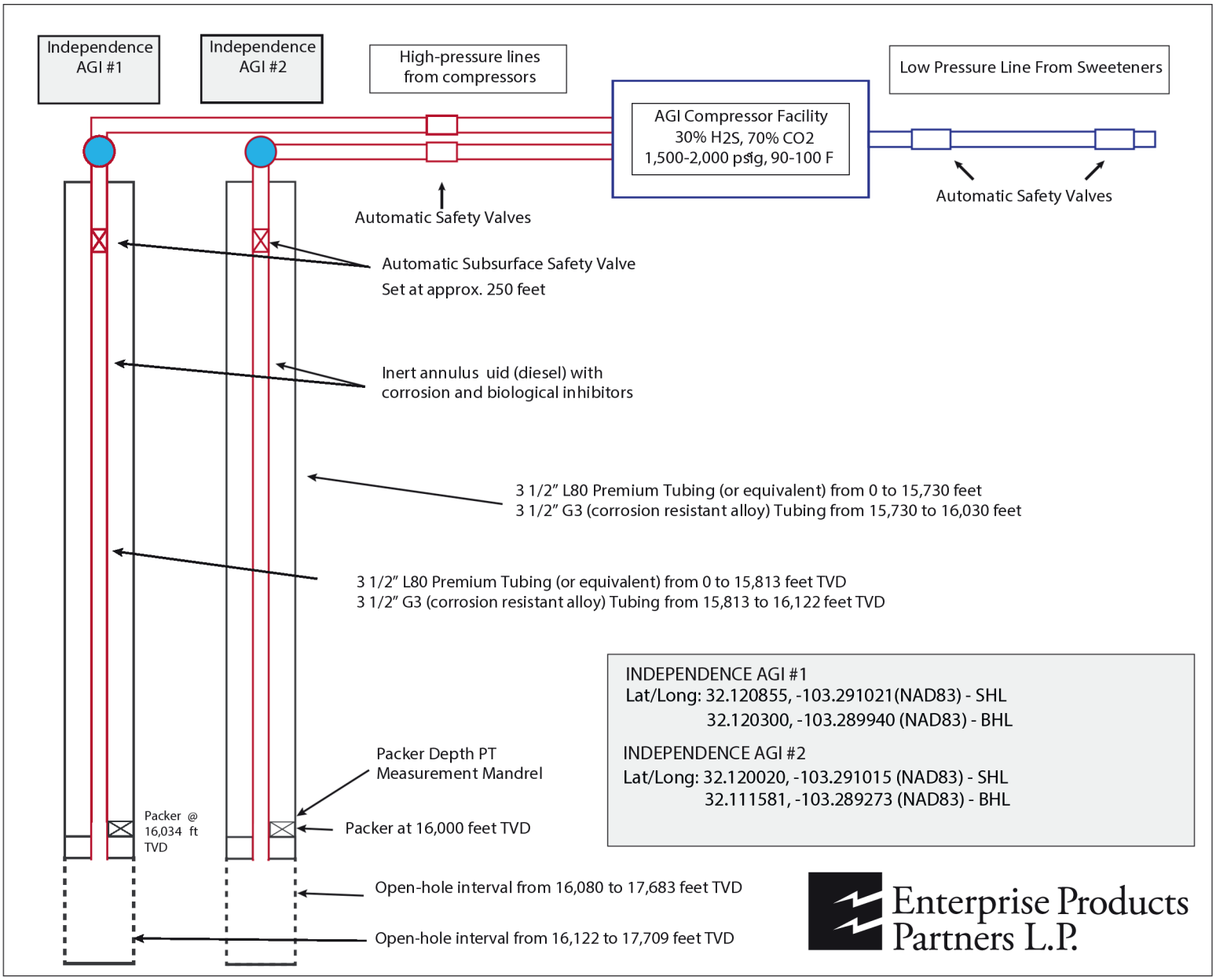


Figure 6. Schematic of surface facilities, Independence AGI #1 and Independence AGI #2.


CAUTION
H_2S
POISONOUS GAS
MAY BE PRESENT
Enterprise Products
Partners L.P.

APPENDIX A

IMMEDIATE ACTION PLAN

AFFECTED PUBLIC

EMERGENCY RESPONDERS

DARK HORSE GAS TREATMENT PLANT

IMMEDIATE EMERGENCY ACTION PLAN

AFFECTED PUBLIC
FIRST RESPONDERS

PLAN ACTIVATION

Level 3 Activation. The Emergency Immediate Action Plan is activated when an incident or series of incidents have occurred at the Dark Horse Gas Treatment Plant which creates a release of Hydrogen Sulfide (H_2S) Gas or [Sulfur Dioxide (SO_2) if the H_2S has ignited] in concentrations significant enough to pose a threat to the public.

ENTERPRISE: EMERGENCY ACTIONS.

The Operations Superintendent (or his designee) will assume the title of Enterprise Incident Commander (IC)

1. Enterprise will notify 911 and initiate communications with public first responders. The IC will be responsible for assuring the coordination of Enterprise employees and public emergency responders.
2. Notify the Operations Control Center and provide:
   - All available information concerning the release.
   - If needed ask for additional assistance for notification to the affected public (residents, businesses, operators) living with the 500 ppm and 100 ppm impact areas.
3. Enterprise will notify the affected public to either evacuate or shelter in place.
4. Enterprise will dispatch necessary personnel, equipment, tools, and instruments as warranted by the situation.
   - IC will designate personnel to assist with road blocks at predetermined areas on State Road 128. Dependent on conditions at the time, IC may designate additional areas to be blocked off. Personnel will take appropriate emergency response equipment including 4-way monitors.

Normal Operations. Once the incident has been rectified, Enterprise will notify the affected public and give "All Clear".

AFFECTED PUBLIC: EMERGENCY ACTIONS.

1. Upon notification by Enterprise of a Level 3 Activation caused by a large release of Hydrogen Sulfide Gas. Residents are advised to immediately evacuate their premises. Escape routes are away from the Dark Horse Plant (see Map provided), and if possible perpendicular to the current wind direction.
2. Residents are then advised to stay out of the pre-determined radius of exposure until given the "All Clear" from Enterprise personnel.

INTRODUCTION

The Dark Horse Gas Treatment Plant is a fully manned natural gas processing plant located in Lea County New Mexico. Unless it is down for maintenance or other issues, it operates 24 hours a day, 7 days a week. The plant gathers raw natural gas from Lea County, New Mexico and Winkler County, Texas. Raw natural gas from this gathering system contains Hydrogen Sulfide (H_2S), it is toxic to humans and animals, it is corrosive and flammable and must be treated to remove this gas and other impurities from the gas stream. Treatment of this "sour gas" generates extremely high concentrations of (H_2S) and Carbon Dioxide (CO_2). When combusted, H_2S creates Sulfur Dioxide (SO_2) which is also toxic to humans and animals.

There are two Acid Gas Injection wells on the facility grounds which are used to inject the H_2S and CO_2. The Dark Horse Treatment Facility is equipped with an emergency shutdown system (ESD) at the Plant and AGI wells.

LOCATION

The Dark Horse Gas Treatment Plant and AGI wells (Independence AGI #1 & Independence AGI #2) have been constructed in Section 20, Township 25 South, Range 36 East in Lea County, New Mexico on land owned by Enterprise Products Partners L.P. The main entrance to the plant is off of N.M. State Road 128. Traveling west from Jal approximately 5.4 miles and approximately 100yrds west of Mile Marker 47, turn south on a private lease road. The GPS coordinates at that point are Latitude: 32.1371 Longitude: -103.2795. The plant is located at Latitude: 32.1199 and Longitude: -103.2873.

EVENTS THAT COULD LEAD TO A RELEASE OF HYDROGEN SULFIDE

A catastrophic release, fire or explosion has occurred.

A continuous release of 100 ppm or greater has occurred for 24 hours; corrective actions to resolve the release have been unsuccessful.

The root cause of these events could be caused by one or more of the following.

Inlet, outlet, or plant piping failure. Ranging from a small pinhole leak to a guillotine type failure.	Flange/gasket failure or leak at the plant or at the AGI wells and/or on their associated piping.
Failure of the flare to ignite during a Plant ESD	Flange/gasket failure or leak on the acid gas compressors.
Valve packing leak or failure.	Unintended damage to the Plant or AGI wells.
Construction activities.	AGI blowout

CHARACTERISTICS OF H_2S AND SO_2

Hydrogen Sulfide Gas(H2S) is a colorless, flammable, extremely hazardous gas with a "rotten egg" smell at low concentrations. However, with continuous low-level exposure, or at high concentrations, a person loses his/her ability to smell the gas even though it is still present (olfactory fatigue). This can happen very rapidly and at high concentrations, the ability to smell the gas can be lost instantaneously.

- H2S is heavier than air and may travel along the ground and collect in low-lying areas. However, it can be picked up by a breeze and carried downwind.
- H2S is a highly flammable gas and gas/air mixtures can be explosive. It may travel to sources of ignition and flash back. If ignited, the gas burns to produce toxic vapors and gases, such as sulfur dioxide.
- High concentrations can cause shock, convulsions, inability to breathe, extremely rapid unconsciousness, coma, and death. Effects can occur within a few breaths, and possibly a single breath.
- Entering dangerous H2S atmospheres at or above 100 ppm is Immediately Dangerous to Life and Health (IDLH).

NEVER attempt a rescue in an area that may contain hydrogen sulfide without using appropriate respiratory protection and without being trained to perform such a rescue.

Sulfur Dioxide (SO2) is produced as a by-product of H2S combustion. It is colorless, transparent, and non-flammable, with a pungent odor associated with burning sulfur.

- SO2 is heavier than air and may travel along the ground and collect in low-lying areas. However, it can be picked up by a breeze and carried downwind when temperatures are elevated.
- Entering a dangerous SO2 atmosphere at or above 100 ppm is Immediately Dangerous to Life and Health (IDHL)

NEVER attempt a rescue in an area that may contain sulfur dioxide without using appropriate respiratory protection and without being trained to perform such a rescue.

ENTERPRISE PRODUCTS EMERGENCY NUMBERS

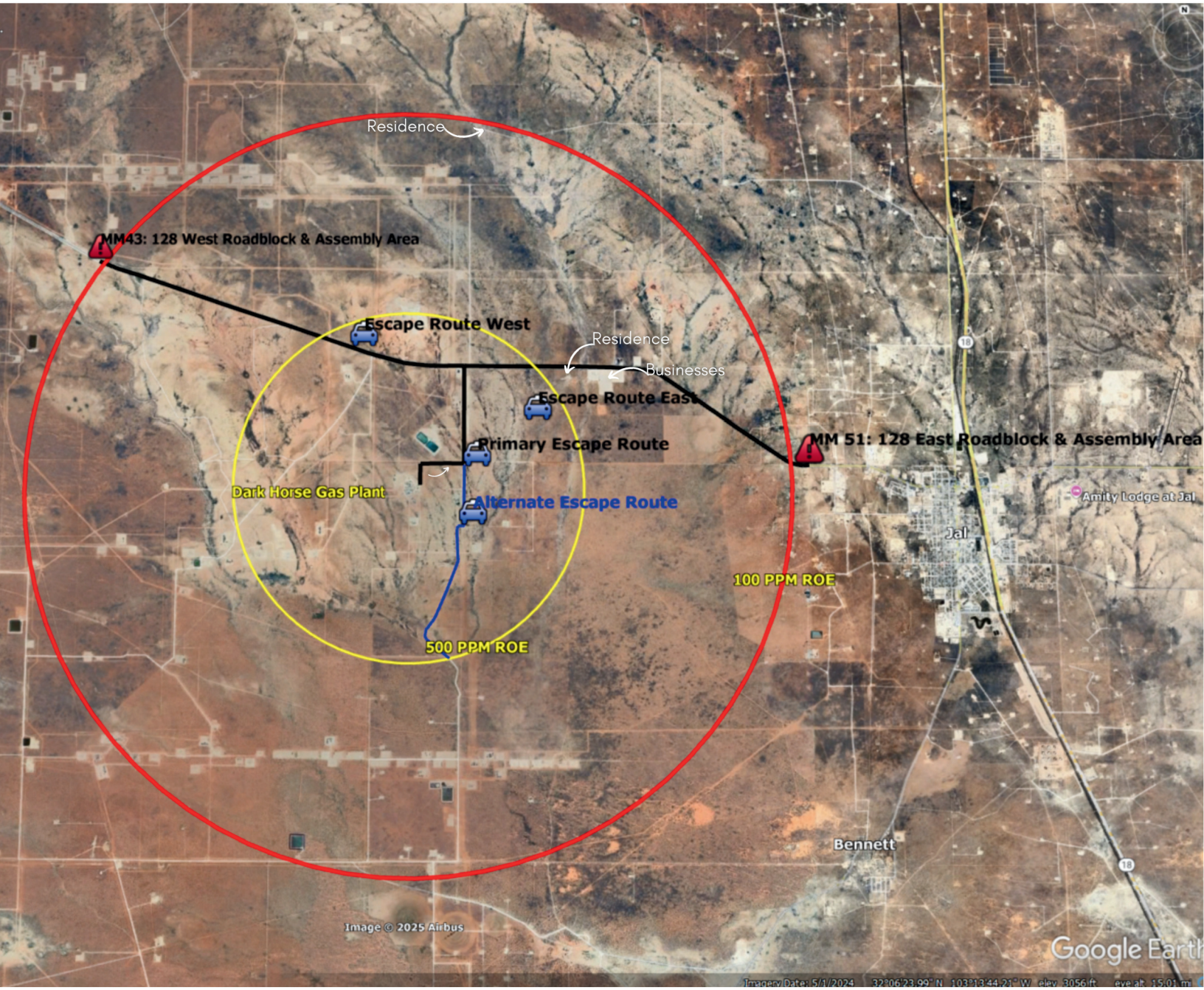
Dark Horse Gas Treatment Plant	575.361.3688
Enterprise Gas Control	281.887.2633

PRE DETERMINED ROAD BLOCK LOCATIONS ON STATE ROAD 128

Roadblocks are predetermined on State Road 128. The locations were determined based on the 500 and 100 ppm Radius Of Exposure calculations.
Roadblocks: State Hwy 128.
Mile Marker 51: Lat: 32.1232 Long: -103.2221
Mile Marker 43: Lat: 32.1530 Long: -103.3444

Enterprise Products Partners L.P.

ROAD BLOCK & ESCAPE ROUTES



Escape Route
Primary Routes (East & West)
Alt. Route (South)
Road Block
ROE – 500 ppm
ROE – 100 ppm

Figure 3. Radius of Exposure (ROE) map. Calculations for ROE made for concentrations of H2S for 100ppm (3.94 mile radius) and 500ppm (1.80 mile radius). Primary emergency assembly areas are located northwest and east of the plant and AGI well.

GPS Coordinates - SR 128
MM51 *(32.1232-103.2221)*
MM43 *(32.1530-103.3444)*
2 Residents (within 100ppm)
1 Business (within 100ppm)

APPENDIX B

CO_2

MONITORING PROGRAM

Enterprise Products Recommendation for CO_2 Monitoring of West Jal B Deep SWD #1

Background:

Enterprise Products operates two Acid Gas Injection (AGI) wells in support of sour gas treatment at the Dark Horse processing plant. These two wells are the Independence AGI #1 and Independence AGI #2 wells with API numbers 30-025-48081 and 30-025-49974, respectively. Due to the proximity of a nearby SWD well, West Jal B Deep SWD #1, the New Mexico Oil Conservation Division (OCD) has proposed surface monitoring for CO_2 around this location.

Enterprise proposes a network of four CO_2 soil flux stations around the West Jal B Deep SWD #1 well. This CO_2 monitoring methodology has been approved by the Environmental Protection Agency (EPA) in several Monitoring, Reporting, and Verification (MRV) Plans required by regulation 40 CFR 98.440 (c)(1), Subpart RR of the Greenhouse Gas Reporting Program (GHGRP). Enterprise intends to place 4 new CO_2 flux stations around the West Jal B Deep SWD #1 which will be sampled quarterly to monitor changes in CO_2 levels at the surface. The frequency of testing will identify seasonal variations in CO_2 soil flux and establish a baseline against which surface leakage could be detected. In addition, portable H_2S monitors will be deployed during each CO_2 soil flux sampling event.

Method:

1. CO_2 soil flux measurements will be taken using a LI-COR LI-8100A or equivalent device which will be fully calibrated annually before use. Four PVC soil collars (8cm diameter) will be installed systematically around the surface location of West Jal B Deep SWD #1 well in accordance with the LI-8100A specifications. The soil collars will be left in place such that each subsequent measurement campaign attempts to use the same locations and collars during data collection.

2. The measurement procedures for gathering data at each location are as follows:

    a. The soil collar depth (from the soil surface to the top of the collar) will be measured, recorded, and input into the LI-8100A measurement parameter definition via the iOS app
    b. The chamber will be attached to the soil collar
    c. Measurement is initiated using an observation length of 1-2 minutes. If measurements showed unreasonable variation, the observation is repeated
    d. Output data for CO_2 flux and the coefficient of variation are recorded.

3. Based on changing environmental conditions, some of the collars may require reseating, replacement, or slight movement during measurement campaigns. Some collars may be missing during subsequent campaigns; those locations will be replaced for future measurements. Because reseating could influence the measurement, flux data will not be recorded for those collars that were reseated or replaced during that campaign. By having a large array of sampling locations, Enterprise will alleviate any concerns of lost data that may occur when a particular station is unavailable to record data during any sampling event.

4. LI-COR LI-8100A CO_2 soil flux detectors are calibrated annually at the factory. In addition, if readings become problematic, the instrument will be sent to LI-COR to be adjusted and recalibrated. H_2S detectors will be calibrated based on the specific model guidelines.

Sampling:

1. Enterprise will prepare and submit a sampling and analysis plan (SAP) to the OCD for approval prior to conducting any field operations. Enterprise requests to establish all future sampling events per the SAP.

The SAP shall be submitted using Form C-103 (General Notice of Intent). All individual sampling events shall be conducted during appropriate field conditions (good weather with moderate temperatures with the ground not frozen or saturated with rainfall).

2. Enterprise is recommending at least four new CO_2 soil flux sampling stations starting at the wellbore of West Jal B Deep SWD #1 well and then systematically placed to establish full cover of the surrounding surface area.

Reporting:

1. The findings of the monitoring events shall be organized into a written report to be submitted to the OCD annually using the following protocols:
    a. Report of the first sampling event indicating that measurements are/are not acceptable based on the previously established baseline which includes seasonal variations
    b. Annual report that incorporates the next three subsequent sampling events
    c. Reports will include:
        i. A copy of the SAP approved by OCD
        ii. Time and location for each CO_2 soil flux station and a map showing the location of the sampling stations relative to the surface location of the well
        iii. Calibration results from H_2S monitors when applicable
        iv. Recommendations of the sampling event

2. The report shall be submitted to the OCD annually using Form C-103 (General Subsequent). Approval of the C-103 shall constitute acceptance of the report as complete. Enterprise will notify OCD of any anomalies which would indicate that there is a significant increases in CO_2 soil flux at any location.

APPENDIX C

EMERGENCY PHONE NUMBERS:

AFFECTED PUBLIC

FIRST RESPONDERS

ENTERPRISE

RESIDENCES, BUSINESSES, PUBLIC RECEPTORS, AND PRODUCERS WITHIN THE 100 PPM ROE

Residence or Business	Address	Phone
Manuel Ramirez - Resident Tommy Dinwiddie - Owner	309 NM-128 Jal, NM 88252	575-369-5655 575-631-0385
Blue Star Services, LLC	277 NM-128 Jal, NM 88252	575-725-8887
H&S Rentals	277 NM-128 Jal, NM 88252	325- 245-7517
Thomas Oilfield Services	273 NM-128 Jal, NM 88252	432-888-5127
J. David Overton	585 Phillips Hill Rd Jal, NM 88252	432-553-5597

Producers	Office Location	Office Phone
Ameredev Operating, LLC	2901 Via Fortuna, Suite 600 Austin, TX 78746	737-300-4700
BC & D Operating, Inc.	1008 West Broadway Hobbs, NM 88240	575-393-2727 575-942-2700
Caza Operating, LLC	200 N Loraine St, Suite 1550 Midland, TX 79701	432-682-7424
Tap Rock Operating, LLC	523 Park Point Drive, Suite 200 Golden, CO 80401	720-772-5093
Chevron USA Inc.	6301 Deauville Blvd Midland, TX 79706	432-687-7328
Fulfer Oil & Cattle, LLC	P.O. Box 1224 Jal, NM 88252	505-935-9970
Owl SWD Operating, LLC	20 Greenway Plaza, Suite 500 Houston, TX 77046	713-307-8752
EOG Resources, Inc.	P.O. Box 2267 Midland, TX 79702	432-638-8475
Earthstone Operating, LLC	1400 Woodloch Forest; Ste 300 Attn: NM Regulatory The Woodlands, TX 77380	281-298-4246
Driftwood Oil, LLC	P.O. Box 1224 Jal, NM 88252	575-395-9970
Franklin Mountain Energy, LLC	44 Cook Street, Suite 1000 Denver, CO 80206	303-570-4057
Solaris Water Midstream, LLC	907 Tradewinds Blvd, Suite B Midland, TX 79706	432-203-9024
Mesquite SWD, Inc.	P.O. Box 1479 Carlsbad, NM 88221	575-706-7288
Devon Production Company, LP	333 West Sheridan Ave. Oklahoma City, OK 73102	405-552-4660
Fae II Operating, LLC	11757 Katy Freeway, Suite 725 Houston, TX 77079	832-706-0041

RESIDENCES, BUSINESSES, PUBLIC RECEPTORS, AND PRODUCERS WITHIN THE 100 PPM ROE

Producers	Office Location	Office Phone
COG Operating, LLC	600 W. Illinois Ave. Midland, TX 79701	432-683-7433
Northern Pacific Oil & Gas	150 S. Rodeo Drive 250 Beverly Hill, CA 90210	505738-3809
Northwind Midstream Partners, LLC	825 Town and Country Ln Bldg. 5 Suite 700 Houston, TX 77024	713.351.0700

ENTERPRISE PRODUCTS PARTNERS L.P.

ESSENTIAL PERSONNEL:

All Dark Horse Operations Personnel are deemed "Essential" when a Phase 3 activation has occurred. The Operations Superintendent (OS) will automatically assume Enterprise's Incident Commander (IC). In the event the OS is not at the facility or in the general area of operations, the role of IC is assigned to his designee on-site. Whomever is the designated IC will remain in the position until relieved. Once the decision has been made to relieve the current IC, all essential personnel must be made aware of the change. Dependent on the varied scenario(s) which could occur during an emergency event, plant personnel will likely be performing their respective roles in an attempt to safely stop the release of H2S and return to normal operations. For those reasons, it is impractical to identify with certainty who might be assigned to assist with the blocking of roads, who might be responsible for taking role at the muster areas, or any other duties deemed significant to the emergency. The IC will make those determinations based on the current emergency conditions and the number of available personnel.

Dark Horse Operations Management utilizes an internal record of all operations personnel and their phone numbers which is updated as personnel changes occur. The IC will have those names and numbers available if an emergency event were to occur.

ENTERPRISE PRODUCTS EMERGENCY NUMBERS:

Dark Horse Gas Treatment Plant	575.361.3688
Enterprise Gas Control	281.887.2633

ENTERPRISE PRODUCTS PARTNERS L.P.

PLAN ACTIVATION:

Level 3 Activation. The Emergency Immediate Action Plan is activated when an incident or series of incidents have occurred which creates a release of Hydrogen Sulfide (H2S) Gas or [Sulfur Dioxide (SO2) if the H2S has ignited] in concentrations significant enough to pose a threat to the public.

EMERGENCY ACTIONS:

The Incident Commander will initiate the following.

1. Notify 911 and initiate communications with public first responders. The IC will be responsible for assuring the coordination of Enterprise employees and public emergency responders.

2. Identify the emergency if possible and it is safe to do so. If the incident has resulted in a fire, it should be allowed to burn until consultation with Enterprise Management and First Responders has occurred.

3. Notify Enterprise Gas Control

- All available information concerning the release.
- If needed ask for additional assistance for notification to affected public (residents, businesses, producers).
- If needed ask for additional assistance for notification to public emergency responders and NMOCD.

4. Dispatch necessary personnel, equipment, tools, and instruments as warranted by the emergency.

5. IC will designate personnel to assist with road blocks at predetermined areas on State Road 128. Dependent on conditions at the time, IC may designate additional areas to be blocked off. Personnel will take appropriate emergency response equipment including 4-way monitors.

PUBLIC EMERGENCY RESPONDERS TELEPHONE NUMBERS:

DEPARTMENT	PHONE NUMBER
LEVEL 3 ACTIVATION. EMERGENCY ACTION.	911
New Mexico State Police (Hobbs)	575-392-5588
Lea County Sheriff's Department	575-396-3611
Jal Fire & EMS	575-395-2221
Eunice Fire & EMS	575-394-3258
Lea County Local Emergency Planning Committee (LEPC)	575-605-6561
Lea County Reginal Medical Center - Hobbs	575-492-5000
Lubbock University Medical Center. Helicopter Dispatch	800-345-9911

APPENDIX D
RADIUS OF EXPOSURE (ROE) CALCULATIONS

Pinon Midstream **Proposed** *Dark Horse Plant* **ROE CALCULATIONS PURSUANT TO RULE 11**

If data is provided in mole% use calculator below for getting ppm

Enter Mole % in cell C5	Mole %	ppm
Convert mole% to ppm	2.5	25000

If data is provided in mole fraction use calculator below for getting ppm

Enter Mole Fraction in cell C10	Mole Fraction	ppm
Convert mole fraction to ppm	0.025	25000

Use ppm derived from either of above calculations to input data below

Input Data Here					
	H_2S Concentration (ppm)	25000			
	24 Hour Throughput (MMCFD)	200			

The radius of exposure is calculated using the following equations:

100 ppm ROE calculation (as per 19 NMAC 15.11.7.K.1)

$$X_{100ppm} = [(1.589)(Conc_{H2S})(Q)]^{(0.6258)}$$

500 ppm ROE calculation (as per 19 NMAC 15.11.7.K.2)

$$X_{500ppm} = [(0.4546)(Conc_{H2S})(Q)]^{(0.6258)}$$

Where:

X = radius of exposure (ft)

$Conc_{H2S}$ = the decimal equivalent of the mole or volume fraction of H_2S in the gas

Q = daily plant throughput corrected to standard conditions (SCFD)

Plant parameters

Q =	200	MMSCFD =	200000000	SCFD			
$Conc_{H2S}$ =	25000	ppm =	2.5	Mole %=	0.025	Mole Fraction	

ROE calculation:

X_{100ppm} = [(1.589)*(0.025)*(200000000)]^(0.6258)

X_{100ppm} = 20801 ft = 3.94 miles

X_{500ppm} = [(0.4546)*(0.025)*(200000000)]^(0.6258)

X_{500ppm} = 9505 ft = 1.80 miles

APPENDIX E

DISTRIBUTION LIST

ENTERPRISE PRODUCTS PARTNERS L.P.

REQUIRED DISTRIBUTION LIST

NM Oil Conservation Division

NM Department of Public Safety (State Offices)

NM State Police – Lea County

Lea County Local Emergency Planning Committee.

SECONDAY DISTRIBUTION LIST

At the discretion of Enterprise Products Partners L.P., the Dark Horse H2S Contingency Plan may be distributed to other entities. The distribution would include either the entire Plan or pertinent information contained in:
Appendix A: Immediate Emergency Action Plan for the Affected Public and First Responders.
Additional entities may include the following.

Entity
Lea County 911 Emergency Response
Lea County Sherrif's Department
Jal EMS – Fire, Police, Ambulance
Bureau of Land Management – Lea County
Residents residing within the 100 ppm ROE
Businesses residing within the 100 ppm ROE
Producers operating within the 100 ppm ROE

APPENDIX F

RECORD OF EVENTS

Enterprise Products Partners L.P.
Dark Horse Gas Treatment Plan

Incident Record of Events

The Dark Horse Emergency Action Plan is activated when an incident or series of incidents have occurred which creates a release of Hydrogen Sulfide Gas in concentrations significant enough to pose a threat to the public. If the event could possibly be a threat to any homes or businesses in the area, personnel are required to notify 911 and initiate communications with public first responders. Enterprise will also begin notification of the affected public. Dark Horse personnel will then assist the public and safety officials in their response.

Time of Incident: _____AM _____PM. Date: _____

Location of the Incident:

AGI Well #1. Yes _____ Latitude: 32.120855 Longitude: -103.291021. Independence AGI #1 API: 30-025-48081

AGI Well #2. Yes _____ Latitude: 32.120062 Longitude: -103.291025. Independence AGI #2 API: 30-025-49974

Dark Horse Plant. Yes _____ Main entrance to the Plant: Latitude:32.1194 Longitude -103.2874.

Type of Incident: _____

_____

_____

_____

_____

_____

Did this release result in a fire? Yes _____. No _____.

Was the release caused by a fire? Yes _____. No _____.

Did the release result in any injuries? Yes _____. No _____. How many? _____.

Did the release result in any fatalities? Yes _____. No. _____. How many? _____.

Has this release endangered, or does it have a reasonable probability of endangering public health? Yes _____. No _____.

Has this release substantially damaged, or will it substantially damage property or the environment? Yes _____. No _____.

Volume of Gas Vented (Mcf) Details: _____

Volume of Gas Flared (Mcf) Details: _____

Other significant facts that are known and are relevant to the cause of the incident/accident or the extent of the damages.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ _____

Signature Date

APPENDIX G

NOTICE OF RELEASE

Submitting a Notification of Release (NOR) 19.15.11.16

1. Enterprise shall notify the division (NMOCD) upon a release of hydrogen sulfide requiring activation of the Hydrogen Sulfide Contingency Plan as soon as possible, but no more than four hours after plan activation, recognizing that a prompt response should supersede notification. Enterprise shall submit a full report of the incident no later than 15 days following the release.

2. At present, all notifications are submitted electronically.

3. Submission of the Notification of Release
   1. Log into OCD Permitting: OCD Permitting. Whomever is submitting the notification must have the "rights" to do so. SIGN-IN located at the top right of the OCD Permitting Cover Page
   2. Enter the OGRID number
   3. Click the Submissions tab in the top right of the website.
   4. Click on "Releases" and Select "[NOTIFY] Notification of Release".
   5. Scroll down to the bottom of the page and click "New NOR Application"
   6. Edit the prepopulated contact information by clicking on "Edit Submission Contact Details". Enter contact information of individual submitting the NOR.
   7. Add location: 32.11967 -103.28925.
   8. Add Facility ID. _____.
   9. If the release occurred at one of the injection wells, the well(s) API # will be required.
      AGI #1: API 30-025-48081
      AGI #2: API 30-025-49974
   10. Continue to enter relevant data.

4. Chronological Order of Events. The Notice of Release will ask for the following, at a minimum.

Site Name	Date Release Discovered	Surface Owner
Incident Type		
Did this release result in a fire or is the result of a fire?		
Did the release result in any injuries?		
Has this release reached, or does it have a reasonable probability of reaching a watercourse?		
Has this release endangered, or does it have a reasonable probability of endangering public health?		
Has this release substantially damaged, or will it substantially damage property or the environment?		
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water?`		
Natural Gas Vented (Mcf) Details		
Natural Gas Flared (Mcf) Details		
Other Released Details		
Is this a gas only submission (i.e. only significant Mcf values reported)?		