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SAFETY MANAGEMENT SYSTEM	Date: May 2010	
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Risk Assessments

HAZARDS AND POTENTIALLY HAZARDOUS WORK OPERATIONS


Geo Group Africa shall identify hazards and potentially hazardous work operations. For each work operation identified as involving a previously identified hazard, Geo Group Africa shall supply Risk Assessment, which shall:

- Describe the operation to be performed in the sequence of the basic job steps.
- Identify the hazard or potential hazard.
- Describe how the hazard will be managed.

Geo Group shall not proceed with the work/operation in hazardous locations until the Risk Assessment has been approved and signed.

Guidelines for actual steps involved in an operation specific risk assessment are:

- Each activity is listed;
- Specific identified hazards are listed against each activity;
- The magnitude of each hazard is rated as low, medium or high;
- All known documentary and supervisory controls are listed, for instance: What Safe Work Procedures exist for scaffolds and ladders etc?
- The relevance, effectiveness and sufficiency of these controls are assessed;
- In the event of deficient controls for the particular activity, actions to be taken will be recorded and safe working procedures drawn up;
- Persons responsible for implementing and supervising the task are to be identified, nominated and duly assigned;
- Persons responsible for monitoring the task and carrying out the Planned Job Observation to be nominated;

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RISK ASSESSMENT APPROVAL/HEALTH AND SAFETY COMMITTEE REVIEW –


CONTRACTOR COMPANY: **Geo Group** : RISK ASSESSMENT NAME: **Rotary core drilling**

DATE RECEIVED: _____ DATE FORWARDED _____

COMMENTS

RESPONSIBLE PROJECT OFFICIAL: _____ DATE _____


HEAD OF DEPARTMENT: _____ DATE _____


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RISK ASSESSMENT TEAM

RISK ASSESSMENT REFERENCE NUMBER: 008


DATE :- 25.04.10

SCOPE OF RISK ASSESSMENT					
RISK ASSESSMENT TEAM					
NAME	DESIGNATION	SIGNATURE	NAME	DESIGNATION	SIGNATURE
Georges Du.Val	Safety Manager				
Manie Rossouw	Works Manager				
Phillip Moahatsane	Site Supervisor				


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RISK ASSESSMENT


ALL SITES							DEPARTMENT GEOM GROUP					
ASSESSMENT 008							ACTIVITY (CONTEXT) Rotary Core Drilling					
SUB-ACTIVITY (SUB CONTEXT)												
RISK ISSUE (TASK/ACTIVITY)	CAUSE (HAZARD/ASPECT)	IMPACT (INCIDENT)	FRCP Applicabl e	SEVERI TY	LIKELIH OOD	IRR	CONTROLS/MITIGANTS (Including Legal Controls)	Control Effectiven ess %	HIERAR CHY OF CONTR	SEVERI TY	LIKELIH OOD	RR
Permission to work	Unauthorised employees	Project delay		3	2	6	Clients and contractors job specific induction Induction		AD	3	2	6
Travelling to site.	Employees not keeping a safe distance from moving vehicles and plant .	Fatality and serious bodily harm and property damage		3	3	9	Induction and training checks drivers are licenced. safety toolbox talks road traffic ordinance No driving under power lines without height restriction notifications.		AD	3	2	6

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Interaction at haul roads.	Interaction with other plant and equipment	FATAL, Equipment damage		5	1	5	Approved and communicated traffic plan PPE: Reflective vests Maintaining required safe distance Observing and obeying traffic signage and rules. Right of way to large vehicles. Safety equipment on vehicles		AD PPE	5	1	5
Interaction with livestock	Contaminated water in drill sump	Injury/ death to livestock		3	3	9	Drill areas to be fenced off preventing possibility of livestock entering work area and possibly drinking contaminated water from drill sump		EL	2	2	4
Establishing site	Fire	Property loss - forestry and farmlands		4	1	4	No Smoking Policy 20m wide fire break Fire equipment on site Professional Fire fighters on permanent site standby.		AD PPE EL SU	4	1	4
Pre-drilling inspections.	Not following pre-start procedures Slipping and falling	Severe injury.		3	3	9	Pre-start inspection checklists Trained operators. Three point contact. Insuring walkways are free of grit and drilling equipment.		PPE	2	2	4
				2	3	6			AD PPE	2	3	6
Drilling on a slope.	Roll over or sliding of	Fatal injury and or equipment		4	2	8	Stable ground conditions for outriggers.		AD	4	2	8

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	machine.	damage.					Pre site inspection checklist Trained and experienced operators No Go under severe wet conditions Site lay down checklist Cleaning up area Stabilizer jacks					
Underfoot conditions.	slippery and uneven surfaces. Tripping hazards	Sprains to ankles and possible wrist injuries		3	3	9	Housekeeping No go operations for wet surfaces. Hazard awareness training Toolbox talks – Hands / Housekeeping /		AD	2	2	4
Lifting of drill mast and positioning of drill rods.	Hoisting Cable failure	Fatality, injury and equipment damage		3	1	3	Safe Work Procedure for lifting and lowering of drill rod Certified operators. Certification of cables, shackles, winch and drill derrick. Safety talk covering aspect of lifting methods. Full P.P.E worn at all times. No set upping up of drill rig under power lines or within 15 meters of any power line – permit needed.		AD PPE	3	1	3
Changing of hoses	Uncontrolled release of	Injury to Personnel		2	3	6	Lock out of oil pump. Pressure release before		PPE	2	3	6

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	pressure. Environmental pollution.	Environmental pollution.					loosening pipes. Environmental spill kit to be on site PPE to include rubber gloves to be used to prevent equipment from slipping out their hands .					
Drilling of holes.	Loose clothing Interaction between man and machine	Fatal, Injury		5	1	5	Chuck guard to be used. Lockout bars to be used at control levers. Safe den to be indicated. Trained and certified operators Safe Work Procedure for drilling		RE AD EL	4	1	4
Changing of drill rods.	Loose clothing. Interaction between man and machine. Accidental activation of control lever.	Fatal, Injury to personnel.		5	1	5	Chuck guard to be used. Lockout bars to be used at control levers. Trained and certified operators. Safe Work Procedure for changing of rods. Inspected and signed off tools register. Signed off Hazardous Chemical register. Certification of cables, shackles, winch and drill derrick.		AD EL PPE	4	1	4

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							Safety talk covering aspect of lifting methods. Full P.P.E worn at all times.					
Changing drill bits.	Loose clothing. Interaction between man and machine. Accidental activation of control lever.	Fatal, Injury to personnel.		5	1	5	<p>Chuck guard to be used. Lockout bars to be used at control levers. Trained and certified operators. Safe Work Procedure for changing of bits. Inspected and signed tools register. Hazardous Chemical register. Certification of cables, shackles, winch and drill derrick Safety talk covering aspect of lifting methods. Full P.P.E. worn at all times.</p>		AD	4	1	4
SBT testing	Interaction man machine. Cable failure	Severe Injury		4	2	8	<p>Safe work procedures PPE Trained and certified operators Certification of cables, shackles, winch and drill derrick Safety talk covering aspect of lifting methods.</p>		AD	4	1	4
Maintenance	Lack of	Injury to		2	1	2	Only qualified artisans with		AD	2	1	2

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to equipment.	maintenance. Machinery not locked out.	personnel. Equipment damage					gas training certificate allowed to do gas cutting and welding. Equipment serviced and checked before start of contract		PPE			
Moving drill rig with a truck.	Uncontrolled movement. Man machine interaction.	Fatal, injuries and damage to equipment.		4	1	8	Hitching Hooking Use of stop blocks. P.P.E SWP		AD PPE	4	1	8
Refuelling.	Smoking while refuelling. Man / machine interface. Machine not locked out. Hazardous spillages.	Injury, burns , explosions, forest and graze land fires and environmental spillages.		5	3	1	MSDS Marked containers Storage of diesel SWP		AD PPE	4	1	4
Smoking	Fires	forest and graze land fires		4	5	20	Professional fire fighting team Fire tender and equipment No smoking / no naked flames signage Designated smoking area 20 m fire break Smoking policy		PPE EL AD SU	4	2	8
Operating in adverse	Poor visibility. Slip and fall.	Injury , equipment		4	2	8	Lightning protection plan. Look out for mist red dots at		AD	4	2	8

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weather conditions.	Flooding. Misty conditions. Slipping machine or machine movement on a slope.	damage					100m. No operations during rain and on slippery surfaces. Lightning protection plan to be in place. SWP					
Removal and loading of drill rods from and on truck.	Slip and fall. Material handling. Lifting of drill rods. Dropping of drill rods and other equipment.	injuries to hands and feet back strains		2	3	6	P.P.E		PPE	2	3	6
				3	3	9	safety talks on how to lift heavy equipment		AD	2	2	4
Shutdown and clearing of site.	Spillages. Waste.	Environmental pollution		2	3	6	Spill kits Bio degradable chemicals MSDS Trained operators Safe work procedures PPE Tool box talks		AD	2	2	4
REVISION												
Hierarchy of Control Legend	EL	Eliminate				SE	Separate		AD	Administrative		
	SU	Substitute				RE	Redesign		PPE	Personal Protective Equipment		

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CONSEQUENCE SEVERITY MATRIX

		CONSEQUENCE SEVERITY					
LIKELIHOOD		Low	Minor	Moderate	Major	Critical	LIKELIHOOD LEVEL
	ALMOST CERTAIN	MODERATE 5	HIGH 10	EXTREME 15	EXTREME 20	EXTREME 25	5
	<u>LIKELY</u>	MODERATE 4	HIGH 8	EXTREME 12	EXTREME 16	EXTREME 20	4
	POSSIBLE	LOW 3	MODERATE 6	HIGH 9	EXTREME 12	EXTREME 15	3
	UNLIKELY	LOW 2	MODERATE 4	MODERATE 6	HIGH 8	EXTREME 10	2
	RARE	LOW 1	LOW 2	MODERATE 3	MODERATE 4	EXTREME 5	1
	SEVERITY LEVELS	1	2	3	4	5	

		CONSEQUENCE SEVERITY		
PRIORITY SCHEDULE	<u>INTOLERABLE</u>			STOP WORK – SIGNIFICANT AND URGENT ACTION REQUIRED.
	<u>ALARP</u>			AS LOW AS REASONABLY PRACTICABLE RISK IS REDUCED TO LOWEST PRACTICABLE LEVELS.
	<u>TOLERABLE</u>			MONITOR AND MANAGE THE RISK.